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The Transformation of Conjugal Partnerships: Union Transitions and Trajectories in Canada

Ching Jiangqin Du
The University of Western Ontario

Supervisor
Roderic P. Beaujot
The University of Western Ontario

Graduate Program in Sociology

A thesis submitted in partial fulfillment of the requirements for the degree in Doctor of Philosophy

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by

Ching Jiangqin Du

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CERTIFICATE OF EXAMINATION

Supervisor

Dr. Roderic Beaujot

Supervisory Committee

Dr. Don Kerr

Examiners

Dr. Tracey Adams

Dr. Don Kerr

Dr. Piotr Wilk

Dr. Zheng Wu

The thesis by

Ching Jiangqin Du

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ABSTRACT

Conjugal partnerships have undergone unprecedented changes in Canada throughout the past several decades, especially with regard to the flexibility in entry and exit from intimate relationships. The development of longitudinal datasets and advanced methods further facilitates analyses of partnership transformations from a life-course theoretical perspective and in a wide analytical scope. This dissertation investigates partnership transformations in Canada by examining conjugal partnership *trajectories* and by exploring the risk factors associated with these partnership transformations.

Employing dynamic analytical approaches (e.g., LIFEHIST analysis and survival analysis), this dissertation examines data from the retrospective General Social Survey (GSS) on Family Transitions, conducted by Statistics Canada in 2006. First, Chapter 2 examines the prevalent trajectories to first marriage and second union formation through sequence analysis. The changes in trajectories (i.e., timing, probability, and quantum) show that partnership trajectories in Canada have become more complex, differentiated and turbulent, with a striking regional difference between Quebec and the rest of Canada.

Second, Chapter 3 investigates the effect of socioeconomic prospects on the trajectories to second union formation among Canadians living outside of Quebec and born in 1960-75. The results indicate that socioeconomic prospects significantly affect the odds of taking a *serial-cohabitation* trajectory versus a *one-marriage trajectory*, whereas the hazard of taking a *two-marriage* versus *one-marriage trajectory* is influenced by family structure and religiosity more significantly than socioeconomic prospects. Also, there is gender symmetry in terms of the influence of socioeconomic prospects on trajectories to second union formation.

Lastly, Chapter 4 compares the risk factors affecting the stability of men's and women's first and second marriages. The influence of covariates on the stability of second marriages varies significantly by gender, although similar effects of predicators are found in the stability of first marriages for both men and women. Interestingly, subsequent marital *spousal-only cohabitation* has a more detrimental

impact on marital stability relative to *other than spousal-only cohabitation*; the adverse effect of *spousal-only cohabitation* is also found to be stronger for men than for women in both first and second marriages. The findings from this dissertation contribute to our understanding of on-going differentiations of conjugal life in Canada and of how gender is implicated in the unfolding of life-course events.

Key Words: Cohabitation, Life-Course Perspective, Divorce, Frailty, Gender, Marriage, Longitudinal Data Analysis, Second Demographic Transition, Social Exchange Theory, Sequence Analysis, Survival Analysis, Transition, Trajectory, Union Formation, Union Dissolution.

DEDICATION

To My Dearest Pa & Ma, who show me the value of diligence and persistence in life.

Pingyuan Du & Yuzhi Jiang

&

To My Brother, who inspires me to pursue my dreams in life and to conquer futile fears.

Jiangping Du

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GSS	General Social Survey
SDT	Second Demographic Transition
nu	Never-in-Union
1m	First Marriage
1dm	First Demarriage
2m	Second Marriage
2dm	Second Demarriage
1c	First Cohabitation
1dc	First Dehabitation
2c	Second Cohabitation
2dc	Second Dehabitation

Chapter I

Introduction

1.1 Conjugal Partnership Transformations in Canada

Conjugal partnerships have undergone considerable changes over the past few decades in Western industrial countries, including Canada (e.g., Ambert 2009, 2011; Beaupré & Cloutier 2007; Bamlett & Mosher 2002; Cherlin 2004; Elzinga & Liefbroer 2007; Lochhead & Glossop 2007; Milan et al. 2007; Mills 2000, 2004; Statistics Canada 2002, 2008a; Wu & Schimmele 2011). The phrases "marriage-go-around" and "pluralisation of partnerships" have been coined by family demographers to illustrate rapid changes in partnership (Cherlin 2009; Mills 2004). For example, partnership transformations are so swift that nearly a decade after Cherlin (1981) wrote *Marriage, Divorce, and Remarriage,* he (1992) remarked in the preface of the second edition that the book would be more appropriately entitled *Cohabitation, Marriage, Divorce, More Cohabitation, and Probably Remarriage*. Accentuating the unprecedented scale of intimate partnerships in recent decades, Cherlin (2009) entitled his latest research on intimate relationships *The Marriage-Go-Round: The State of Marriage and the Family in America Today.*

The substantial transformations in partnerships are epitomized in popular culture through trendy sitcoms. The current Emmy award-winning sitcom, *Modern Family* (2009-present), for example, stands in contrast to the admired 1950's sitcom *Leave it to Beaver* (1957-1963) based on a traditional nuclear family. One fundamental characteristic defining the modern family is identified as the emotional shift in intimate relationships, such as the rise of affective individualism (Stone 1977), the "surge of sentiment" (Shorter 1975), or the predominance of "pure relationship" (Giddens 1992).

With this shift, the formation of modern families and partnerships is governed by emotional and individual ascendancy (e.g., Giddens 1992). In emphasizing this momentous shift, Cherlin (2004) has spoken of two transitions associated with the deinstitutionalization of marriage: the transition from an institution to a companionship (Burgess & Locke 1945) and the successive transformation toward individualized marriage (Beck & Beck-Gernsheim 1995, 2002; Giddens 1992). As a result, the permanency of marriage is replaced by what Sharon Sassler (2010) called "partnering over the life course". The remarkable partnership transformations imply an unprecedented scale of conjugal partnerships, indicating serial monogamy and complexity in conjugality (e.g., Bamlett & Mosher 2002; Haskey 1999; Le Bourdais et al. 2000; Leridon 1990; Kiernan 2002; Murphy 2000; Mills 2004; Statistics Canada 2008).

Demographers have used the concept of a second demographic transition (SDT) to characterize these significant transformations in partnerships and family-life (e.g., Lesthaeghe 1995, 2010). In contrast to the well-known first demographic transition characterized by profound declines in fertility and mortality within families, the second demographic transition is characterized by a greater flexibility in entry into and exit from conjugal relationships (e.g., Lesthaeghe 1995; Van de Kaa 1987). More broadly, the SDT includes the rise of divorce and cohabitation (i.e., premarital, non-marital, and post-marital cohabitation), the delay and decline of marriage, deferred childbirth, and increased out-of-wedlock births.

In addition to these broad descriptions in SDT, there are also significant variations by region, race and other demographic variables (Desrosiers et al. 1999; Dumas & Bélanger 1997; Elzinga & Liefbroer 2007; Heuveline & Timberlake 2004; Kerr et al. 2006; Kiernan 2002; Niu 2008; Lichter et al. 2006, 2010; Raley & Bumpass 2003). For example, the prominent regional differentials in partnership transformations between Quebec and elsewhere in Canada have been well-documented — Canadians in Quebec appears to be front-runners in the Canadian landscape of partnership transformations (e.g., Beaujot & McQuillan 1982; Le Bourdais & Marcil-Gratton 1996; Le Bourdais et al. 2004; Laplante 2006; Pollard & Wu 1998).

1.1.1 Marriage and Divorce

The substantial changes in tying and untying the marital knot were first viewed in the 1960s as signs of revolutionary changes inside of families (Shorter 1975; Popenoe 1988, 1993; Cherlin 1981, 2009; Trost 1986; Statistics Canada 2004, 2008a). The transformations in marriage have stimulated the debate on the future of marriage; for instance, is marriage simply being delayed or being completely forgone (e.g., Oppenheimer 1988, 1997; Goldstein & Kenney 2001). This debate rests on the steady decline in total first marriage rates and the increase in the median age at first marriage during the past few decades. Much evidence from prior empirical work is inconclusive, supporting both sides of the issue. Marriage delay or retreat is further affected by other factors, including family models (e.g., Raymo & Iwasawa 2005), values systems (Laplante 2006), and welfare state regimes (e.g., Billari & Liefbroer 2010).

The decline of total female marriage rates since the dawn of SDT is shown in Figure 1.1. The striking change shown in Figure 1.1 is the constant fall in the total female marriage rate since the 1970s: from nearly 90% in 1965 to approximately 50% in 2000. This decline is especially marked in Quebec, where marriage started to lose its ground progressively since the spread of cohabitation in the mid-1970s (Le Bourdais & Marcil-Gratton 1996; Le Bourdais et al. 2004). A series of studies by Le Bourdais and colleagues concluded that a marriage retreat has occurred in Quebec, where cohabitation has become an "alternative to marriage", while marriage in the rest of Canada still remains a customary conjugal institution, with cohabitation largely being a "prelude to marriage" (Le Bourdais et al. 2004). That is, Quebec resembles Sweden while the rest of Canada follows a pattern that is more like that of the United States.

Figure 1.2 further presents the first marriage rate by gender, birth cohort, and age. The rates clearly indicate the growing variances in marital timing and probability across birth cohorts. This suggests a first marriage delay and retreat, over generations. These patterns are reflected by the changed and reduced areas under the curves, across cohorts. For example, the modal age at first marriage rises from 21 for grooms and 20 for brides for the 1955 birth cohort, to 27 and 24 for the 1973 birth cohort. In examining marriage from a historical perspective, family scholars have concluded that marriage has become

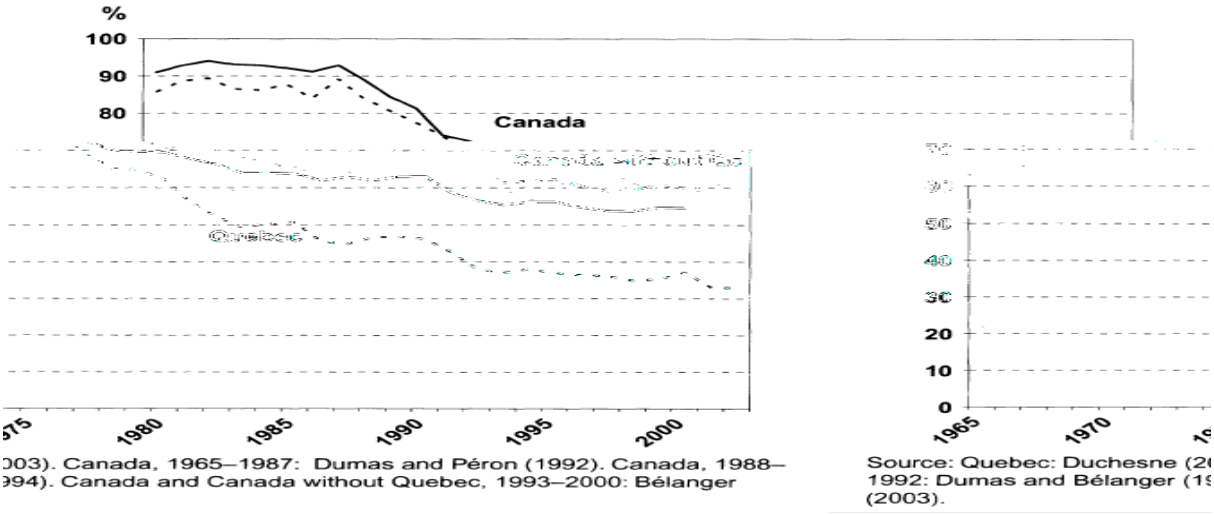
merely one type of intimate relationship, and it is unlikely that marriage will once again have monopoly status in the near future (Coontz 2004; Lochhead & Glossop 2007; Milan et al. 2007; Sassler 2010; Smock 2004).

Besides the changes in marital entry, the idea of the modern family is seen through the "divorce revolution", which is viewed as the driving force in "disturbing the nest" (Ambert 2009; Becker et al. 1977; Balakrishnan et al.1987; Lyngstad & Jalovaara 2010; Popenoe 1988; Shorter 1975; White 1990). Two watershed moments in the legislative regulations have shaped divorce in Canada: the 1968 Divorce Act and 1986 Divorce Act amendment (Statistics Canada 2008a). Divorce was rare before World War II in Canada and it increased significantly following the 1968 Divorce Act.

Figure 1.3 displays the total divorce rate and duration-specific divorce rate from 1970 to 2002. As seen in Figure 1.3, the total divorce rate increased steadily since 1970 and reaches a historical peak in 1987, then levels off but remains relatively high. Specifically, the period total divorce rate increases from about 2 out of 10 in the early 1970s to almost 4 out of 10 around the 2000s. Furthermore, the duration-specific divorce rates suggest that marriages have a higher risk of dissolution over durations of three to ten years than over durations of 15 years or more. The divorce rates are highest for marriages with durations of five years or more before 1990 and for marriages lasting three years or less after 1990. In contrast, marriages with durations of 25 years or more have the lowest divorce rate. Likewise, the divorce rate is relatively low over the first year of marriages.

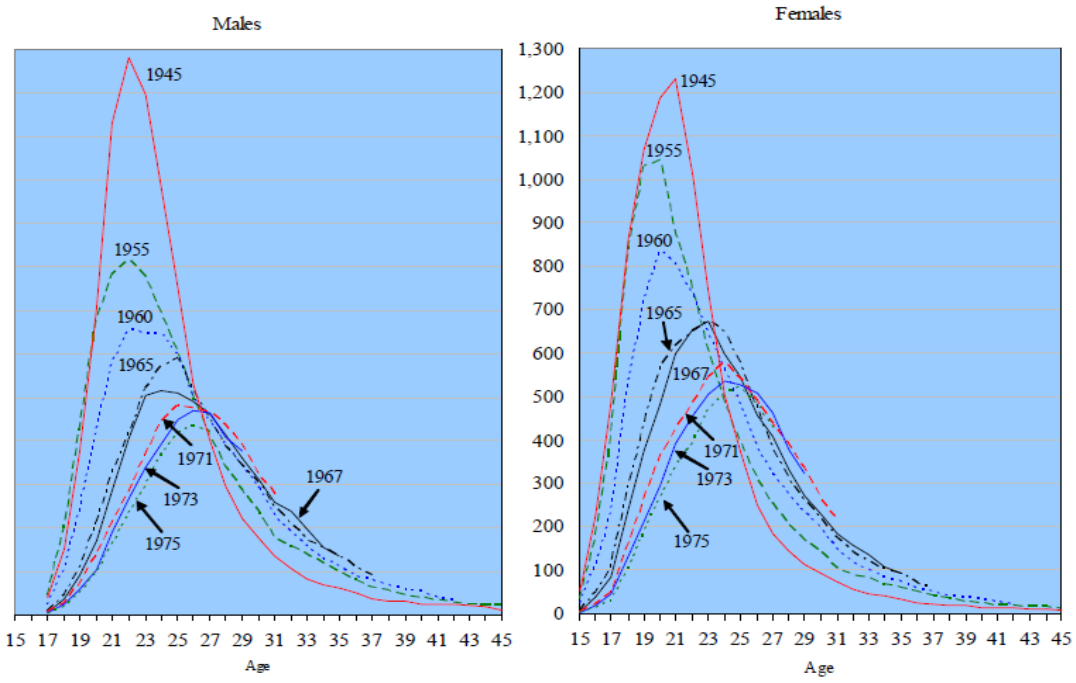
Along with the "divorce revolution", more Canadians are exposed to the risks of remarriage or repartnering (e.g., Statistics Canada 2008a). Indeed, more than one third of marriages that occurred after the 1990s in Canada involved a remarriage, for at least one of the spouses (Bélanger 2003: 62; Statistics Canada 2008a). The corresponding figure is more than 50 percent in the United States (e.g., Bramlett & Mosher 2002). Meanwhile, remarriage, dubbed an incomplete institution (Cherlin 1978), is even more unstable than first marriage (e.g., Clark & Crompton 2006; Coleman et al. 2000).

Figure 1.1 Total female marriage rate, Canada and Quebec, 1965-2002



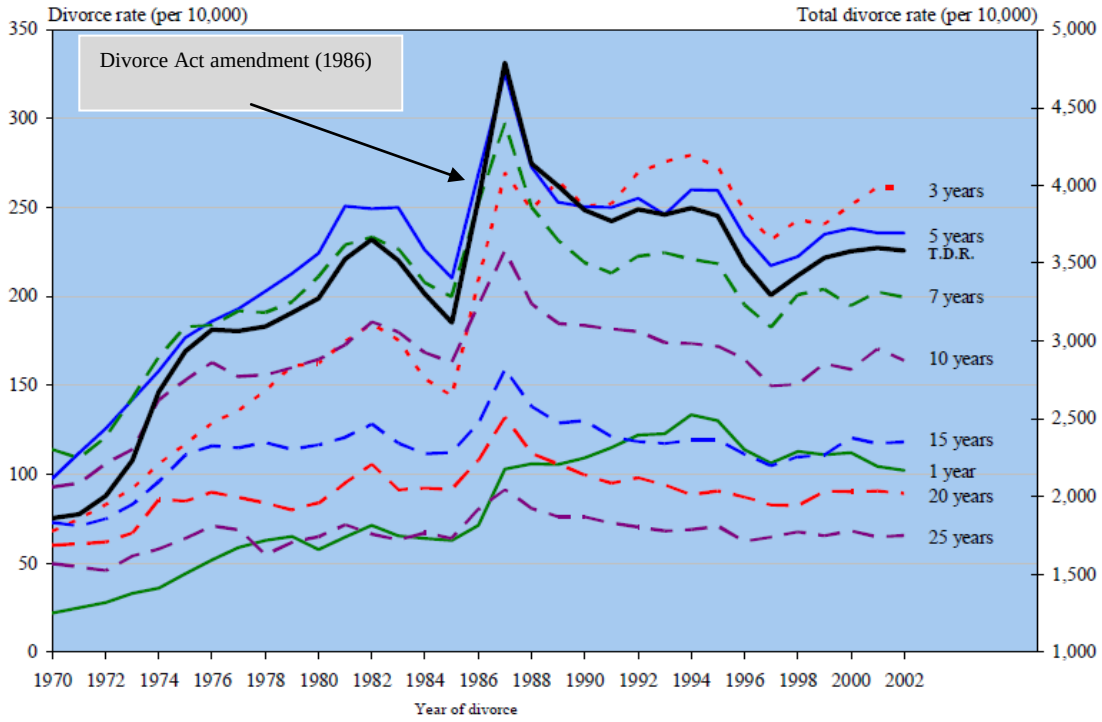
Source: Le Bourdais et al. 2004: 930.

Figure 1.2 First marriage rates by sex, birth cohorts, Canada



Source: Bélanger 2006: 61.

Figure1.3 Total divorce rate and duration-specific divorce rate, by durations and year of divorce, 1970-2002



Source: Bélanger 2006: 68.

1.1.2 Cohabitation and Dehabitation[1]

The prevalence of cohabitation is identified as one of the most significant shifts in family demographics over the past few decades (e.g., Dumas & Bélanger 1997; Kiernan 2002; Murphy 2000; Smock 2000; Sassler 2010; Wu 2000). It has become a modal way of entry to first conjugal union and the preferred union type after separation or divorce since the early 1990s (e.g., Bumpass & Lu 2000; Kiernan 2002; Statistics Canada 2008a;

[1] The term "dehabitation" refers to the dissolution of cohabiting unions by separation (Mills 2004:172). Cohabitation can be dissolved by either separation (dehabitation) or transforming to marriage.

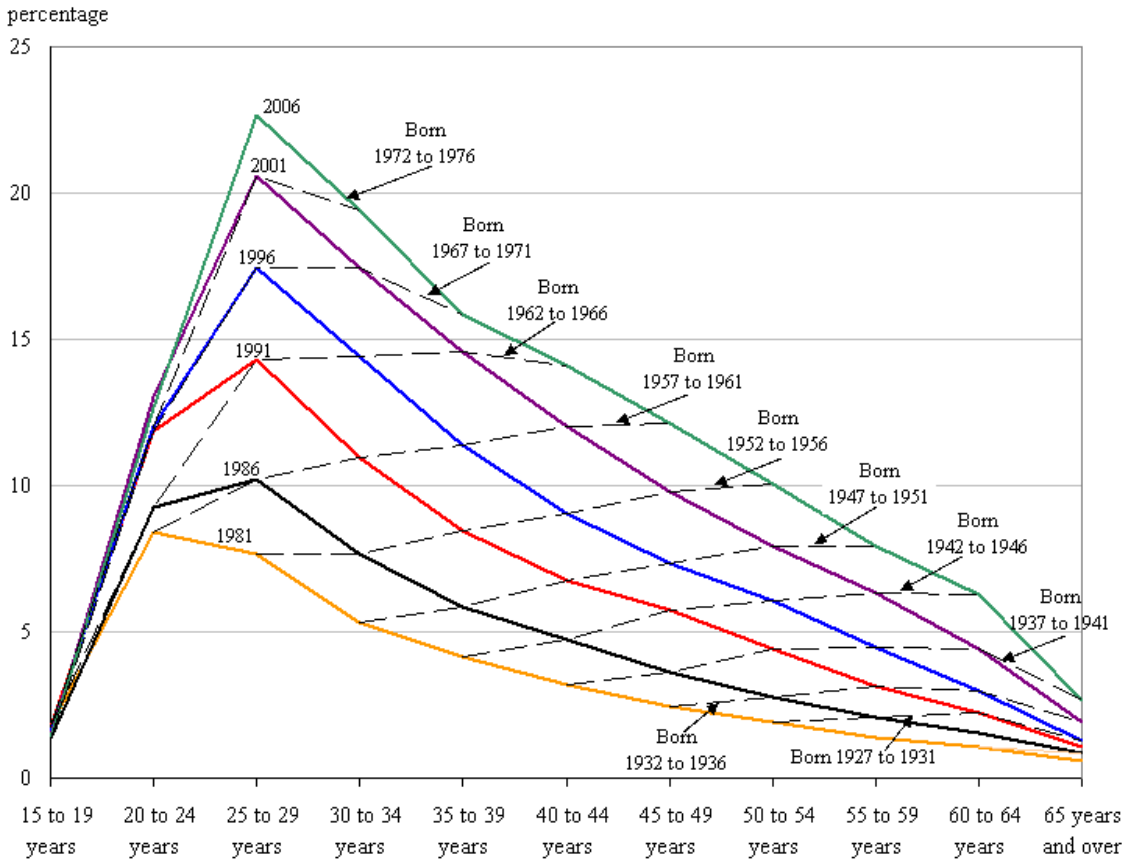
Wu & Schimmele 2005). Accordingly, cohabitation has become an integral phase of the family building process (e.g., McGinnis 2003; Mills 2004).

The percentage of Canadian couples living in cohabitation has grown over time: from 0.7 % in 1976 to 6.3% in 1981, 11.2% in 1991, 16.4 % in 2001, and 18.4% in 2006 (Kerr et al. 2006:88; Wu 2007:7). There is a considerable regional difference: according to 2006 Canadian census, the percentage is nearly 35% in Quebec but it is only 13% in the rest of Canada outside of Quebec (Wu 2007:13).

Figure 1.4 presents percentages of individuals living in cohabitating unions by birth cohort and census year. The escalating percentages across census years among each age group signify wide diffusion of cohabitation among Canadians over time. Unsurprisingly, higher percentages of younger Canadians choose to live in cohabitation than their older counterparts, although a fair amount of Canadians aged over 40 are also living in cohabitation. The percentage of cohabitation peaks among Canadians aged 25-29, with nearly 10% in 1986 and 23% in 2006. These distributions suggest that cohabitation in Canada is becoming widely accepted at a societal level, either as a prelude or alternative to marriage (e.g., Dumas & Bélanger 1997; Le Bourdais et al. 2004; Mills 2004).

As one of the most significant shifts in demographics of the last half of the 20th century, cohabitation has attracted substantial research on the patterns, trends, mechanisms, precursors, and consequences associated with it(e.g., Bumpass & Sweet 1989; Bumpass & Lu 2000; Dumas & Bélanger 1997; Kerr et al. 2006; Niu 2008; Wu 2000; see reviews from Sassler 2004; Smock 2000). For example, numerous studies have documented the patterns and trends of cohabitation in various cultural settings (e.g., Bumpass & Sweet 1989; Kerr et al. 2006; Murphy 2000; Kiernan 2002), its relationship with marriage (e.g., Brines & Joyner 1999; Nock 1995; Le Bourdais et al. 2004), nonmarital childbearing (e.g., Brien et al. 1999; Le Bourdais & Marcil-Gratton 1996; Raley 2001) and the impact of cohabitation on subsequent union transitions (Axinn & Thornton 1992; Hall & Zhao 1995; Stanley et al. 2006).

Figure 1.4 Proportion of persons living in common-law unions, Canada, 1981 to 2006



Source: Statistics Canada 2008: 71.

Notes: Statistics Canada, censuses of population, 1981, 1986, 1991, 1996, 2001 and 2006; Refers to population in private households, 20% data.

Given the significance of cohabitation for the future of marriage, a large body of research has been devoted to theorizing about this phenomenon (e.g., Dumas & Bélanger 1997; Kiernan 2002). On the basis of the evolution of cohabitation in European countries, Kiernan (2002) posited the partnership transition theory, offering insights to variations in cohabitation formation and dissolution across time and countries within Europe. The kernel of partnership transition theory is the institutionalization of cohabitation. Indeed, this theory is largely illustrated through a typology of cohabitation. The typology is comprised of four major indicators, including: incidence, duration, transition, and fertility (e.g., Dumas & Bélanger 1997; Heuveline & Timberlake 2004:1219). In other words, the typology addresses four questions concerning cohabitation: 1) how frequently it occurs; 2) how long it lasts; 3) whether it ends in marriage or separation; and 4) whether it involves the child birth in the union.

The cohabitation typology shows a shift in the nature of cohabitation over the past few decades. Before the early 1990s, cohabitation was more likely to be classified as an "alternative to being single", "trial marriage", "free union", "unstable union", "temporary union", or a "precursor/prelude to marriage", indicating it as a short phase, with a transient orientation toward separation or marriage (e.g., Burch & Madan 1986; Rindfuss & VandenHeuvel 1990). For instance, Rindfuss and VandenHeuvel (1990) concluded that cohabitation is tantamount to singlehood, instead of marriage. In contrast, since the 1990s, the prevailing categorizations of cohabitation include the possibility of "a stable union without commitment", "a substitute for marriage", and "indistinguishable from marriage", suggesting that cohabitation may evolve into a singular, prolonged, and unique stage of partnership (e.g., Dumas & Bélanger, 1997: 150; Heuveline & Timberlake 2004:1219; Kerr et al. 2006). For instance, cohabitation is often a substitute for marriage in Quebec, given that it has become a relatively stable living arrangement involving the raising of children (Le Bourdais et al. 2004).

Apart from transitions of cohabitation either to separation or marriage, researchers' interests have gone beyond to explore the influence of cohabitation on subsequent conjugal transitions. Also of high relevance here is the "cohabitation effect", referring to the higher instability and lower quality of marriage preceded by premarital cohabitation (e.g., Stanley et al. 2006; Tach & Halpern-Meekin 2009). The destabilizing impact of

cohabitation on successive marriage has received strong empirical support across countries (e.g., Liefbroer & Dourlejin 2006). The accounts of "cohabitation selectivity" and "cohabitation experience" are used to explicate this effect. While the "selectivity" explanation emphasizes the divorce-prone characteristics possessed by those individuals, the "experience" reasoning underscores the causal effect resulting from the cohabitation experience (Axinn & Thornton 1992; Hall & Zhao 1995). Although the on-going diffusion of cohabitation constantly challenges this well-documented "cohabitation effect", evidence on a diminished cohabitation effect is mixed (e.g., Liefbroer & Dourlejin 2006; Teachman 2003). Moreover, cohabitation also has become the dominant union type for repartnering, with some of these unions being subsequently transformed into marriages (e.g., Blanc 1987; Bumpass & Lu 2002; Wu & Schimmele 2005).

1.2 The Study of Conjugal Partnership Trajectories

A growing number of studies have explored trajectories of family-life building behaviours and conjugal partnerships from longitudinal and life-course perspectives (e.g., Amato et al. 2008; Billari & Liefbroer 2010; Elzinga & Liefbroer 2007; Lichter et al. 2006, 2010; Mills 2004; Rajulton et al. 2008). It is essential to introduce the key concepts before further discussion on partnership trajectories.

1.2.1 Transition, Trajectory, and Sequence

Transition and trajectory are the two key theoretical constructs in longitudinal research (e.g., George 1993; Macmillan & Copher 2005: 859; Sackmann & Wingens 2003). **Transition** signifies a qualitative change in status, indicating an entry or exit event, such as marriage or divorce. **Trajectory** suggests a fairly linear and unidirectional imagery of the life course, such as successive interrelated transitions in a life span, i.e., premarital cohabitation, marriage, divorce, and post-marital cohabitation (Pavalko 1997; Mills 2004). Also, trajectory generally refers to a sequence of transitions among more than two distinctive states (Rajulton 1992). In other words, transitions are markers of

trajectories, embedded in trajectories and generate distinguishable forms of trajectories (Elder 1994). Accordingly, transition is discrete but trajectory is more holistic. Despite the nuance in those concepts, trajectory is used interchangeably with pathway and sequence (e.g., Amato et al. 2008; Macmillan & Copher 2005:859).

1.2.2 Sequence Analysis

A set of techniques known as sequence analysis has been developed to capture the trajectories of life events (e.g., Aisenbrey & Fasang 2010; Billari 2001; Rajulton 1992). Within Sociology and Demography, sequence analysis has been widely applied in two areas: the study of career and of life-course. In the study of career, the focus is on the analysis of work trajectories or career mobility (e.g., Blair-Loy 1999, 2003; Rosenfeld 1992). On the other hand, the study of life-course includes tripartite life patterns (i.e., *education → work →retirement*), transitions to adulthood, and other interrelated events across several life domains (e.g., Billari & Liefbroer 2010; Brückner & Mayer 2005; Modell et al. 1976; Rindfuss 1991; Shanahan 2000; Ravanera et al. 1998, 2005; Van de Kaa 1997).

Rather than being a new idea, sequence analysis is just a new method (Abbott 1995). By taking into account the full complexity of sequences, this method describes and analyzes sequence data (e.g., Billari 2001; Billari et al. 2006). In highlighting the essence of this procedure, Billari and colleagues (2006: 39) stated that this technique "aims at providing ideal-types of trajectories and exploratory tools that allow researchers to read the complexity of life courses in an adequate way". As a result, sequence analysis involves a holistic investigation, including "the timing ("when"), sequencing ("in what order"), and quantum ("how many") of events … " (Billari & Piccarreta 2005:82).

The fundamental idea underpinning the method is to represent each trajectory by using a string of characters (or numerical representations), similar to the Genome coding in the biological sciences (e.g., Billari 2001:441). For example, four transitions to adulthood – leaving parental home, completing education, getting a job, and entering the first union – can be represented by the letters LEJU (Billari 2001). Theoretically, there

would be 2^4=16 transitional states[2] and a variety of possible combined sequences. Different analytic techniques have been developed to capture trajectories from a quantitative point of view, such as the Optimal Matching Method (e.g., Aisenbrey & Fasang 2010). A special issue devoted to the application of sequence analysis has been published by the journal *Sociological Methods and Research* (2010: 359-512).

1.2.3 Trajectories: Conjugal Partnership and Family-life

Given the milestone role of first conjugality (cohabitation or marriage) in defining adulthood, research on transitions to adulthood and pathways to family-life has included spells of partnership trajectories (e.g., Amato et al. 2008; Elzinga & Liefbroer 2007; Ravanera et al. 1998). However, only a few existing studies focus exclusively on partnership histories (e.g., Lichter et al. 2006; 2010; Mills 2004; Schoen et al. 2007). Rather than investigating a single conjugal transition (i.e., cohabitation, marriage, or divorce), analyses on trajectories of partnerships and family-life have emphasized the interdependency (e.g., cumulative contingencies) among transitions. Thus, trajectories encompass broader spectrums, stressing the opportunities and constraints amassed when pathways are unfolded (Elder 1974; Rindfuss et al. 1991; Lichter et al. 2006, 2010).

Life-course sequences in modern societies (e.g., pathways of family-life, adulthood, and careers) have been found to be destandarized, differentiated, and deinstitutionalized (e.g., Brückner & Mayer 2005; Billari & Liefbroer 2010; Elzinga & Liefbroer 2007; Ravanera et al. 1998; Rajulton et al. 2008). For example, when compared with 18 other industrialized countries, family-life pathways among Canadians increasingly include prolonged non-marital cohabitation without births (Elzinga & Liefbroer 2007). Likewise, partnership histories and the "relationship career" have become more complex and pluralized (e.g., Mills 2004; Poortman 2007; Litcher et al. 2010; Raley et al. 2007; Wu & Schimmele 2005). For instance, in exploring partnership histories, Mills (2004) delineated abridged paths experienced by two female Canadian generations (1946-50

[2] The 16(2^4) theoretical transitions for four transitional states – i.e., leaving parental home (L), completing education (E), getting a job (J), and entering the first union (U) – are derived from the possibility, which each state can make a transition to another state, such as L→*E*, *E*→*L*, *E*→*J*, *J*→*E* and so on.

versus 1961- 65 birth cohorts). When compared with their older counterparts, the younger generation is more likely to make the "nu1m" (*never-in-union to first marriage)* transition but less likely to make the transition of "1c1m" *(first cohabitation to first marriage)*. When piecing all transitions together, the results confirm the pluralized transformation in partnerships over time: in contrast to their older counterparts, the younger Canadian generation is more likely to stay single longer, to start the first union as cohabitation, to dissolve a cohabiting union without transforming to marriage, to have shorter duration of marriage, to repartner through cohabitation at a faster pace, and to have more complex partnership histories. Clearly, this implies a process of destandardiation and pluralisation in partnerships (e.g., more stages in partnership trajectories and more variations in partnership trajectories).

Moreover, Wu and Schimmele (2005) incorporated first union trajectory as a key factor in the process of repartnering. They showed that the probabilities, timing, and types of second union formation vary by the four types of first union exiting statuses, including 1) *cohabit→separate, 2) cohabit→marry→ separate/divorce, 3) cohabit/marry→death of partner, and 4) marry→separate/divorce*. A burgeoning research has further accentuated the increase in serial cohabitation (e.g., Litcher et al. 2010; Schoen et al. 2007; Statistics Canada 2008a).

1.3 Theoretical Perspectives on Partnership Transformations

Before outlining the purpose of the study, a statement on theoretical perspectives is useful for setting up the background to the research. Macro structural and micro cultural explanations are widely used to account for the substantial changes in family and conjugal partnerships in Western industrialized societies since World War II (Beaujot 2000: 90-97; Barber et al. 2002; Popenoe 1993; Shorter 1975; Trost 1986). The macro perspective emphasizes the socioeconomic shifts in structures, such as women's mass participation in the labour market, the greater role of the market, and the expansion of the welfare state (e.g., Becker 1981; Oppenheimer 1997, 2003; Popenoe 1988, 1993; Trost 1986). Alternatively, the micro perspective underscores the ideational shift regarding

family and partnerships (Lesthaeghe 1998, 2010; Thornton 2001, 2005). There are three major theoretical perspectives guiding research on partnership transformations: a) the second demographic transition theory, b) social exchange theory, and c) life course theory.

1.3.1 Second Demographic Transition

The second demographic transition (SDT) theory views "an ideational shift" as the main cause driving rapid changes in conjugality and child birth (e.g., Lesthaeghe 1995, 2010).This perspective attributes the family transformations to long-term movements toward secularization and greater individual autonomy in ethical, religious, and political domains. In particular, the upsurge of individualism, the outgrowth of the "pill revolution" and "post- materialist" consumerism has provoked new norms regulating sexuality, marriage, and reproduction (Lesthaeghe 1998).

Extending this line of thinking, Arland Thornton (2001, 2005) highlighted the importance of the Western "developmental paradigm" in family change worldwide, arguing that the global dissemination of the idea of Western family as the pinnacle of progress and development has been critical to the second demographic transition. Thornton contended that this "developmental paradigm" not only provides ideational frameworks for dealing with and reacting to the world, but also prescribes models for experiencing reality. Thus, the traditional sequence of *dating → marriage → sexual relationship → child birth* was replaced by flexibility in intimate relationships, where self-development, self-actuation, and freedom regarding conjugality gained predominance (e.g., Mills 2004).

Although the SDT theory emphasizes an ideational shift, it also acknowledges the role of structural factors. For instance, Lesthaeghe (1998:58) proposed that "economic and sociological theories are far more complementary rather than mutually exclusive". However, the shift in ideology is identified as more pivotal than economic changes in driving demographic changes (Lesthaeghe 1995; Thornton 2005).

1.3.2 Social Exchange Theory

Social exchange theory has been widely used by economists, sociologists, and demographers to explain union transitions and family change (e.g., Becker 1981; Brien et al. 1999; Goldscheider & Waite 1986; Lichter et al. 1992; Wu 2000). This perspective emphasizes the gains, barriers, and alternatives in conjugal partnership formation and dissolution (e.g., Levinger 1965). Two major perspectives dominate this research in terms of union transitions: Becker's gender specialization-and-trading model of marriage and Oppenheimer's "career-entry" theory of marriage. In emphasizing diminished gains due to the lack of complementary roles in family and work, Becker's model postulates marriage disincentives and withdrawal, in particular for women. In contrast, Oppenheimer's model posits "delayed" marriage given the new prevailing two-earner family model, which also requires a higher standard of living and a longer period for the launch of family-life (e.g., Oppenheimer 1988, 1997, 2003).

Indeed, these two competing frameworks boil down to divergent hypotheses regarding the association between women's socioeconomic prospects and family-building behaviours: the economic independence hypothesis and the income hypothesis. On the one hand, the "economic independence hypothesis" posits a negative relationship. It contends that women's socioeconomic independence reduces the propensity of marriage entry, given the diminished utility of marriage (e.g., Becker 1981). On the other hand, the "income hypothesis" assumes a positive relationship, stating that women's higher income facilitates marriage entry in the long term. Presumably, women's better socioeconomic prospects augment family utility and therefore enhance the family's "competitive position" (e.g., Oppenheimer 1997:404).

Empirical research has supported both models. In particular, evidence from cross-sectional and aggregate-level analyses has bolstered Becker's model, whereas results drawn from longitudinal research have substantiated Oppenheimer's career-entry model of marriage (e.g., Bernard 1981; White & Rogers 2000). This inconclusiveness can be related to the interaction between predominant gender roles and family-work models (e.g., Raymo & Iwasawa 2005). Put differently, the propensity of marriage among women with high socioeconomic prospects is found to be reversed under two different family models

(i.e., breadwinner and two-earner): lower odds of marital entry when traditional family patterns dominate, but higher odds when a two-earner model prevails. Therefore, the two contradictory theories are applicable under different contexts, (e.g., Ravanera & Rajulton 2007; Sweeney 2002; Smock et al. 2005:582). In effect, this relationship is also reflected by converged expectations toward marital spouses by men and women (e.g., Manning & Smock 2002; Raley & Bratter 2004).

In addition, the exchange framework also theorizes other factors in terms of their roles in union transformations (Becker et al. 1977; 1981). For example, biological child can be regarded as "specific marital capital", exerting a stabilizing effect on marriage (e.g., Becker et al. 1977; Brien et al. 1999; Musick 2007). Expanding the boundary of social exchange theory in marital mate selection, researchers have applied this framework to the study of cohabitation (Davis 1985; Landale & Forste 1991; Wu 199, 1995, 2000).

1.3.3 Life Course Theory

While the life course is an object of research, it is also a theoretical perspective. As an object of study, the life course refers to a social construct involving a series of age-graded patterns across a life-span, to be described and understood. As a research orientation, the life course is "a framework for studying phenomena at the nexus of social pathways, developmental trajectories, and social change" (Elder et al. 2003:10). Rather than acting as theory-as-explanation, the life-course perspective provides principles and conceptual tools to investigate the dynamics of life-course, to "make time, context and process more salient dimensions of theory and analysis" (Elder 1995:104). Therefore, sequencing, timing, and quantum are important aspects in life course study (e.g., Billari et al. 2006).

This integrative approach has long been applied in research on union transitions and trajectories in sociology and demography (e.g., Amato 1996; Axinn & Thornton 1993; McLanahan & Bumpass 1988; Mills 2000, 2004). For instance, the life course is reflected in the classical concept of social class reproduction (e.g., Lareau 2003; Rajulton et al. 2008). The interdependence of events over the life course is observed through the fact that union formation is usually encouraged by employment but counteracted by school

enrolment (e.g., Testa & Toulemon 2006; Wu & Pollard 2000). The profound changes in conjugal and fertility behaviours across birth cohorts, such as "pre baby-boom", "baby-boom", and "baby-bust" in the United States, are strongly linked to macro-level factors, such as the population structure and economic cycles (e.g., Eggebeen & Sturgeon 2006; Foot 1998). Richard Easterlin's (1987) theory of relative economic deprivation highlights the substantial impact of historical and social contexts on family-life among American cohorts born after World War II. Stressing the macro factors, Easterlin showed that fortune and life course are tightly related to birth cohorts.

Life course theory involves four central principles: 1) the interplay of human lives and historical times; 2) the timing of lives; 3) linked or interdependent lives; and 4) human agency in making choices (Elder 1994: 5). The four principles show the life course theory as an integrative and multidisciplinary approach (Elder 1994, 1995; Marshall & Mueller 2003). The first principle of historical timing refers to the notion that "when times change, lives change" (Elder et al. 2003:14). Historical timing imposes peculiar constraints and opportunities in the life course. For example, Elder's (1974) seminal work *Children in the Great Depression* demonstrates how the great depression affects the life courses of two successive cohorts of young men differently. The principle of historical timing is also illustrated in Côté and Allahar's (1996) *Generation on Hold: Coming of Age in the Late Twentieth Century* and Malcolm Gladwell's (2008) *The Story of Success: Outliers*, both of which underline the importance of macro factors in determining life courses. In terms of partnership transformations, family scholars have emphasized that easy availability of divorce and social acceptance of cohabitation in the second half of the 20th century provide the possibility for change (e.g., Burch & Madan 1986; Cherlin 2004; Popenoe 1993).

The second principle of social timing emphasizes the role of social norms in regulating appropriate timing and sequential order of major life events for each cohort. Because of social timing, age has become one of the most interesting social phenomena, representing the analytical link between changing lives and historical context (Settersten 2003: 85). Age norms also function as psychological mechanisms by providing guidance and regulations across the life-span, allowing individuals to have a sense of "on time" or "off time" regarding significant life transitions (e.g., Giele & Elder 1998; Riley 1987).

For example, the ill-timed transitions to adolescents are dubbed “failure to launch syndrome” (Henig 2010). Further, the norms of social timing are generally sanctioned by consequential outcomes in the lives of individuals (e.g., Marini, 1984; Rindfuss et al. 1987). As Giele and Elder (1998:150) have proposed, “age, period and cohort intersect with each other to produce different life patterns among different age groups or ‘generations’”.

The third principle of “linked lives” designates life-course interdependency. Life course unfolds as part of a complex system, which is embedded in social networks. As Elder (1985: 40) proclaimed, “Each generation is bound to fateful decisions and events in the other's life course”. This has been a fundamental idea in Sociology, dating back to Durkheim's classical study on social integration and suicide. In effect, individual lives are influenced by social networks or relationships through multiple mechanisms, such as social interaction and social diffusion (e.g., Axinn & Thornton 1993; Connidis 2001; Diekmann & Engelhardt 1999).

The last principle of human agency denotes the active “construction of the life-course biography" (Elder 1994). Agency “means to be capable of exerting some degree of control over the social relations in which one is enmeshed, which in turn implies the ability to transform those social reactions to some degree” (Sewell 1992:20). Thus, agency, along with linked lives, generates room for heterogeneity in life course, while historical and social timing forge the contours of the life course.

The synthesis of these four principles in life course theory provides a dynamic approach for explaining changes in families. Those approaches, such as Giddens’s (1984) theory of structuration, Sewell’s (1992) notion of “the duality of structure”, and diffusion theory (e.g., Liefbroer & Dourlejin 2006), emphasize the dynamics between structure and agency. It has been argued that structure and agency "mutually imply and sustain each other" (Sewell 1992:13). That is, structure acts simultaneously as medium and outcome of the social practices. When applied to conjugal partnerships, union behaviour not only functions as an individual choice, but as a structure guiding transitions (e.g., Liefbroer & Dourlejin 2006; Mills 2000, 2004; Niu 2008).

Along with theoretical and methodological developments in life course theory, there is a growing body of research that investigates interrelated family behaviours, such as education, employment, cohabitation, marriage, and parenthood (Blossfeld 2005; Brien et al. 1999; Rajulton 2001). This framework can also be used to examine how family-life trajectories are influenced by previous transitions and events from other domains (e.g., Beaujot 2006; Guzzo 2006; Ravanera et al. 1998, 2005, 2006).

1.4 Study Objectives

Despite the greater complexity of partnership trajectories, most studies focus primarily on a specific union transition (e.g., first union, first partnership, marriage, divorce, and repartnering), therefore leaving partnership trajectories less researched (e.g., Balakrishnan et al.1987; Bumpass et al. 1990, 1991; Burch & Madan 1986; Le Bourdais et al. 2000; 2004; Lochhead & Glossop 2007; Milan et al. 2007; Niu 2008; Statistics Canada 2002, 2008a; Wu & Balakrishnan et al. 1994, 1995; Wu 2000; Wu & Schimmele 2005). As suggested by the life course perspective and the theory of the Second Demographic Transition, it is important to examine the transformation of partnerships more holistically, studying trajectories, documenting partnership histories, and exploring associated risk factors.

1.4.1 Research Questions

The goals of this dissertation are to examine the transformation of conjugal partnerships in Canada by applying appropriate statistical models to depict trajectories and to ascertain risk factors influencing trajectories and transitions. Three studies on partnerships are conducted in this manuscript thesis, addressing three distinctive aspects of partnership transformations.

My research is primarily focused on the following:

(i) The application of sequence analysis to portray the trajectories to first marriage and second union formation among women born in 1936-85 in Quebec and the rest of Canada. This analysis seeks to determine whether partnership trajectories among Canadians are becoming more complex, pluralized, and turbulent. And if so, to what extent? How do trajectories differ between Quebec and Canada outside of Quebec?

(ii) Identifying trajectories to second union formation and associated risk factors for Canadian men and women in 1960-75 birth cohorts, excluding Quebec. The investigation is to examine whether socioeconomic prospects affect the risk of experiencing the type of trajectory to second union formation, and whether this divergence varies by gender.

(iii) Ascertaining the risk factors influencing the stability of first-and-second marriage among Canadian men and women, with a focus on the impact of childbearing and cohabitation history. The third analysis aims to determine whether the influence of childbirth and cohabitation history on marital stability is different by marital order and gender.

For this research, the focus is on transitions and trajectories of partnerships to the second union, as illustrated in Appendix Figure 1.1. It is important to note how unions are counted. Marriage preceded by premarital cohabitation is regarded as one union since the partner remains the same (e.g., Haskey 1999; Statistics Canada 2008b). That is, two marriages preceded by two premarital cohabitations, for instance, are counted as two unions, although this trajectory actually involves seven (2^4-1) transitions. Trajectories are only traced to second unions because less than five percent of individuals ever experience three or more conjugal unions (e.g., Haskey 1999; Milan et al. 2007; Lichter & Qian 2008).

1.4.2 Study Rationale

Given that conjugal partnerships have undergone differentiation and pluralization and given the importance of pathways of intimate relationships in the wellbeing of individuals and children, it is imperative to gain a deeper understanding of the complexity of intimate relationships and associated risk factors (e.g., Hetherington 2003; Kerr & Michalski 2007; Waite & Gallagher 2000; Willams & Umberson 2004). The paucity of necessary data and analytical techniques has been the main impediment to conducting studies beyond single event transitions. However, undertaking these holistic analyses in partnership trajectories is facilitated by the development of longitudinal datasets and advanced analytical methods (e.g., Aisenbrey & Fasang 2010; Billari et al. 2006; Rajulton 2001; Sassler 2010; Statistics Canada 2008b).

The detailed descriptive examination of partnership trajectories will contribute to the literature on partnership transformations by establishing the general patterns of this complex social phenomenon (e.g., Lieberson 1985). It has been suggested that there has been a general tendency in sociology to undertake causal modeling (e.g., Abbott 1998). Due to the ascendancy of causality, descriptive work has often been overlooked or downgraded (e.g., Abbott 1998; Lieberson 1985; Goldthorpe 2001). Given the importance of cogent description, it is useful to appreciate the basis of science in terms of observation, description, and pattern recognition (e.g. Hanson 1958; Goldthorpe 2001). The importance of a comprehensive descriptive account of social life has been underscored (Abbott 1998: 173-175). Following this line of argument, the first study in this dissertation is to describe the conjugal partnership trajectories.

Although previous research has increasingly recognized cohabitation as a distinct family form, it has been mainly framed in a marital perspective (i.e., premarital or post-marital), leaving aside the broader study of cohabitation in partnership histories (e.g., Statistics Canada 2002, 2008a). This inclusion of nonmarital cohabitation is particularly important given the increasing heterogeneity in cohabitation (e.g., Bumpass & Lu 2000; Le Bourdias et al. 2004; Lichter et al. 2010; Manting 1996; Schoen et al. 2007). Additionally, there is an ongoing process of cohabitation diffusion and the decoupling of reproduction and partnership (Raley 2001; Le Bourdais et al. 2004).

Although a substantial amount of knowledge has been gained in terms of factors associated with union formation and dissolution (i.e., cohabitation, marriage, divorce), our understanding of correlates regarding partnership trajectories remains incomplete. With the increasing pluralization of conjugal partnerships, it is imperative to expand our knowledge of factors associated with the various types of intimate relationship. For example, despite the abundant research on socioeconomic divergence of union formation and dissolution, less is known about the influence of socioeconomic questions on union trajectories. Specifically, it would be useful to know if there are divergences in partnership trajectories by socioeconomic prospects, and whether this differs by gender. The possible impact of socioeconomic prospects on union trajectories would enhance our understanding and offer new evidence regarding the debate on marriage delay or retreat (e.g., Lichter & Qian 2008; Ravanera & Rajulton 2007; Schoen et al. 2007).

The proposed investigation would also offer valuable insights into the social phenomenon that has been dubbed the "polarization of family life" in Canada. As suggested by prior research, conjugal partnership trajectories have emerged as a nascent type of social inequality in post-modern societies, because social, economic, and cultural capital is assembled and accumulated through various partnering mechanisms, such as assortative mating, intergenerational transformation of family behaviours, and the stronger economic underpinning of marriage compared to cohabitation (e.g., Goldstein & Kenney 2001; Kravdal 1999; Luscombe 2010; Hou & Myles 2007; Rajulton et al. 2008; Raley & Bumpass 2003; Wilcox 2010). It is useful to determine whether younger generations of Canadians are subject to a new type of social inequality associated with partnership trajectories.

Lastly, studying partnership histories enables us to assess the influence of prior conjugal transitions and life histories on the stability of first and second marriage. This analysis will concentrate on the influence of previous union histories, such as child birth and cohabitation, along with differences in gender and marital order (e.g., Widmer & Ritschard 2009). The comparison of factors affecting the stability of first and second marriage among men and women will contribute to our understanding of the gendered life course complexities.

In short, there is a need to expand prior research on the transformation of partnerships, to delineate partnership trajectories, to assess the divergence of socioeconomic prospects in partnership trajectories, and to ascertain the impact of previous union histories on union transformations. A detailed analysis of conjugal partnership transformations, guided by a life course framework and focused on interdependency of partnership transitions, will provide additional insights regarding ongoing partnering over the life course in post-modern societies.

1.5 Data Source

The data are drawn from the 20th cycle of General Social Survey (GSS-20) on Family Transitions, conducted by Statistics Canada in 2006. Data of the GSS-20 were collected in 4 waves from June to October 2006. The target population for this survey was all persons 15 years of age and older in Canada, excluding: 1) residents of the Yukon, Northwest Territories, and Nunavut and 2) full-time residents of institutions. The overall response rate for the survey was 68.7 %, with a sample of 10,346 men and 13,262 women (Statistics Canada, 2008b).

Survey Content

This survey collects information on various aspects of family transitions, such as parental background, home-leaving, conjugal life, fertility, education, and work histories. Most importantly, detailed retrospective histories of conjugal unions were collected. A series of questions regarding each specific conjugal union, including the current union and up to the past four marital or nonmarital cohabiting unions, were asked. These data allow for rich historical analyses, which are not possible using other sources, such as the Canadian Census of Population. In particular, the timing of event transitions (e.g., entry and exit of each union) is gathered on a monthly time scale, allowing for advanced statistical analysis (e.g., sequence analysis or survival analysis).

Partnership histories can be ascertained through a complex string of questions in Section 3 (Marriages of respondent) and Section 4 (Common-law unions of respondent). Core demographic information regarding marriage, separation and divorce was gathered in Section 3. This section covers up to four previous marriages of the respondent. It starts by determining the current legal marital status of the respondent and then collects a detailed marital history, including dates which determine the duration of marriages, separations and divorces, and the age at which these events occurred in the life of respondents. For example, several questions pertaining to the first marriage are as follows: 1) "In what month and year was your first marriage?"; 2) "Did you and your first spouse live common-law before entering into this marriage?"; 3) "In what month and year did you and your first husband/wife begin to live together?"; 4) " Did your first marriage end in: … ?" and 5) "In what month and year did the dissolution occur?" Similarly, Section 4 gathers the information on common-law unions which were not followed by marriages. This allows us to track the increasing phenomenon of nonmarital common-law partnerships. Appendix Table 1.2 shows a diagram of the modules of questions on union transformations contained in the survey. Accordingly, several components of partnerships, including the current, first, and second marriages and nonmarital cohabiting unions, are included in this diagram.

Sampling

For sampling, a multi-stage sampling method was used in GSS-20. Put differently, rather than using the simple random sample, the respondents were selected through a complex design, with stratification (i.e., geographic strata), multiple stages of selection, and unequal probabilities of selection. Households were selected using Random Digit Dialing (RDD), a telephone sampling method, which gave each telephone number in a stratum an equal chance of being selected. One person aged 15 or older was randomly selected from each selected household to participate in the survey. Computer assisted telephone interviewing (CATI) was used to conduct the GSS-20.

In addition to the sampling design, other aspects of survey, such as types of survey and nonresponse, should be taken into account when generating statistical inferences. Despite the fact that telephone interviewing has its advantages (e.g., low cost and rapid

contact with respondents), when compared to face-to-face interview, mail, and online survey, the problem of the sample representativeness is noteworthy. For example, telephone sampling method excludes households without telephones. However, it is estimated that only less than 2% of the target Canadian population are not covered by household telephone interviewing (Statistics Canada 2008b). Research further suggests that individuals from households with low income are more likely to be under-represented due to telephone sampling method. For example, using data from the 2005 Survey of Household Spending, it is found that owning a household telephone was high among all socio-economic groups, but was lowest among the households with the lowest household income (less than $10,000). Specifically, the rate of owning a telephone was 88% for the group with household income less than $10,000, while it was over 96% for all other income groups (Statistics Canada 2008b).

Implications for Statistical Analyses

The multi-stage sampling design in GSS-20, with significant differences in sampling fractions between strata, affects the estimation and variance calculation procedures (Statistics Canada 2008b). Even without nonresponse, the unweighted sample is not representative of the target population, given that some areas are over-represented in the sample (relative to their populations) while some other areas are relatively under-represented due to the multi-stage sampling. The unweighted sample is even less representative, given that the nonreponse rate often varies by demographic factors (Statistics Canada 2008b). Therefore, the design effect, the actual variance for the estimate (taking into account the design that was used) divided by the variance that would result if the estimate had been derived from a simple random sample, should be taken into account.

In addressing the sampling issues, Statistics Canada includes the estimation weights in the data file. Those estimation weights were adjusted using a raking ratio calibration (post-stratification) technique to represent all persons in the target population. The sampling weights provided by Statistics Canada are based on many factors, including the sampling design. For example, WGHT_PER is the basic weighting factor for analysis at the person level, i.e. to calculate estimates of the number of persons (non-institutionalized

and aged 15 or over) having one or several given characteristics. Accordingly, these individual (fractional) sampling weights are used in all statistical procedures in this dissertation (Statistics Canada, 2006). Since the complexities of sampling design have been taken into account in the weights, reasonable estimates of population parameters are expected. From other methodological studies using Statistics Canada data, we cen expect that alternative variance estimation procedures for variances (e.g., bootstrapping) would largely confirm the robustness of the findings (Statistics Canada 2008b).

In addition to the issue of complex sampling design detailed in the previous section, other data limitations are anticipated when using retrospective data on life histories. First, errors in recalling past events are inevitable, especially when it comes to sensitive issues (e.g., out-of-wedlock childbirth and nonmarital cohabitation with former partners). For instance, it is probable that cohabiting unions and out-of-wedlock child births are under reported, to some extent, particularly for men (e.g., Schoen et al. 2007; Statistics Canada 2008b). Second, the sample representativeness is somewhat hampered by the issue of mortality, because a retrospective survey is selective of more robust surviving members of a cohort. That is, those individuals who failed to survive beyond 2006 were excluded. However, prior research has shown that the sample robustness will not pose significant bias for parameter estimates, given that this study focuses on a population under the age of 70 in Canada (e.g., Bumpass et al. 1991; Ravanera et al. 1998, 2006). Lastly, missing reports on timing of certain conjugal transitions could lead to downward estimations of certain trajectories, since the probability of trajectories needs all the information on each transition. Fortunately, this will not affect estimates in this study significantly due to a small number of cases with missing reports. In addition, without knowing the mechanisms that cause missing reports on certain union transformations, analyses with imputations on missing data also run the risk of producing biased estimates.

1.6 Thesis Outline

This dissertation uses an integrated article format, consisting of three distinct but mutually related studies, plus introduction and conclusion chapters. Each analytic paper contains its own basic structure, including study rationale, research background, methodology, results, and conclusion. In particular, the sub-samples and statistical models used in each study are discussed in the Data and Methods sections of given chapters. This thesis investigates the transformation of partnerships in Canada, with a focus on conjugal union formation and dissolution, since the dawn of the Second Demographic Transition in the 1960s.

Chapter 2, entitled "partnership trajectories in Canada: more complex, pluralized, and turbulent", uses sequence analysis to describe the various prevalent trajectories to first marriage and the second union formation. This exploratory study aims to describe the transformations of partnerships among Canadians. The LIFEHIST software, essentially a multistate life table analytical tool, was used to chart the trajectories traversed by Canadian women born from 1936 to 1985 in Quebec and the rest of Canada. The examination of the changes in trajectories, including timing, probability, and quantum, across birth cohorts and regions, clearly demonstrates that partnership trajectories in Canada have become more complex, differentiated and turbulent, with a striking regional difference between Quebec and the rest of Canada.

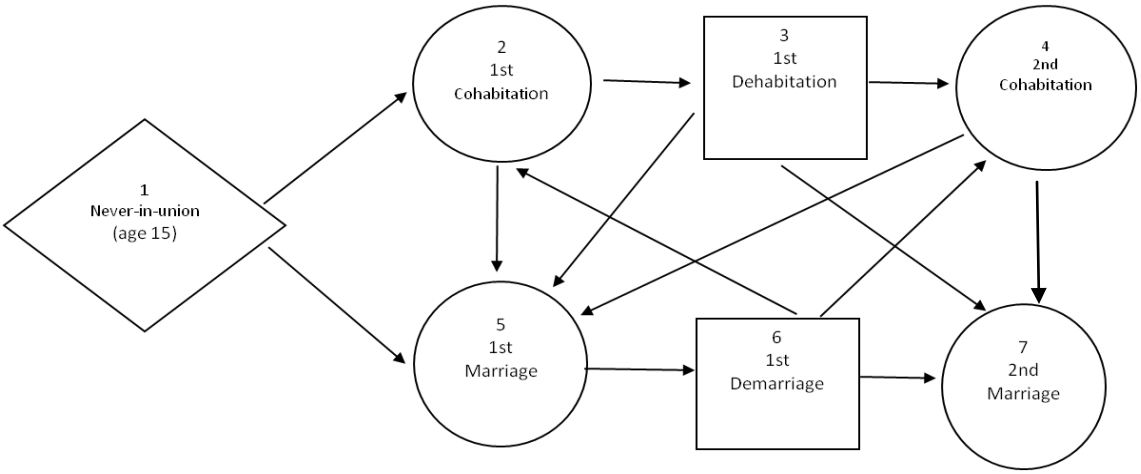
Chapter 3 is entitled "trajectories to second union formation: do socioeconomic prospects matter." Guided by social exchange theory and life course theory, this study extends previous research on union transitions by assessing the risk factors associated with the trajectories to repartnering among men and women born in 1960-75 and living in Canada outside of Quebec. Findings from the multinomial logistic regression indicate that the impact of socioeconomic prospects is significant, showing that the level of socioeconomic prospects is associated with an elevated risk of following a serial-cohabitation trajectory versus a one-marriage trajectory. The results also confirm the gender symmetry in the relationship between socioeconomic prospects and trajectories to

second union formation. The findings are discussed in the context of the polarization of family life and emerging inequality in intimate relationships.

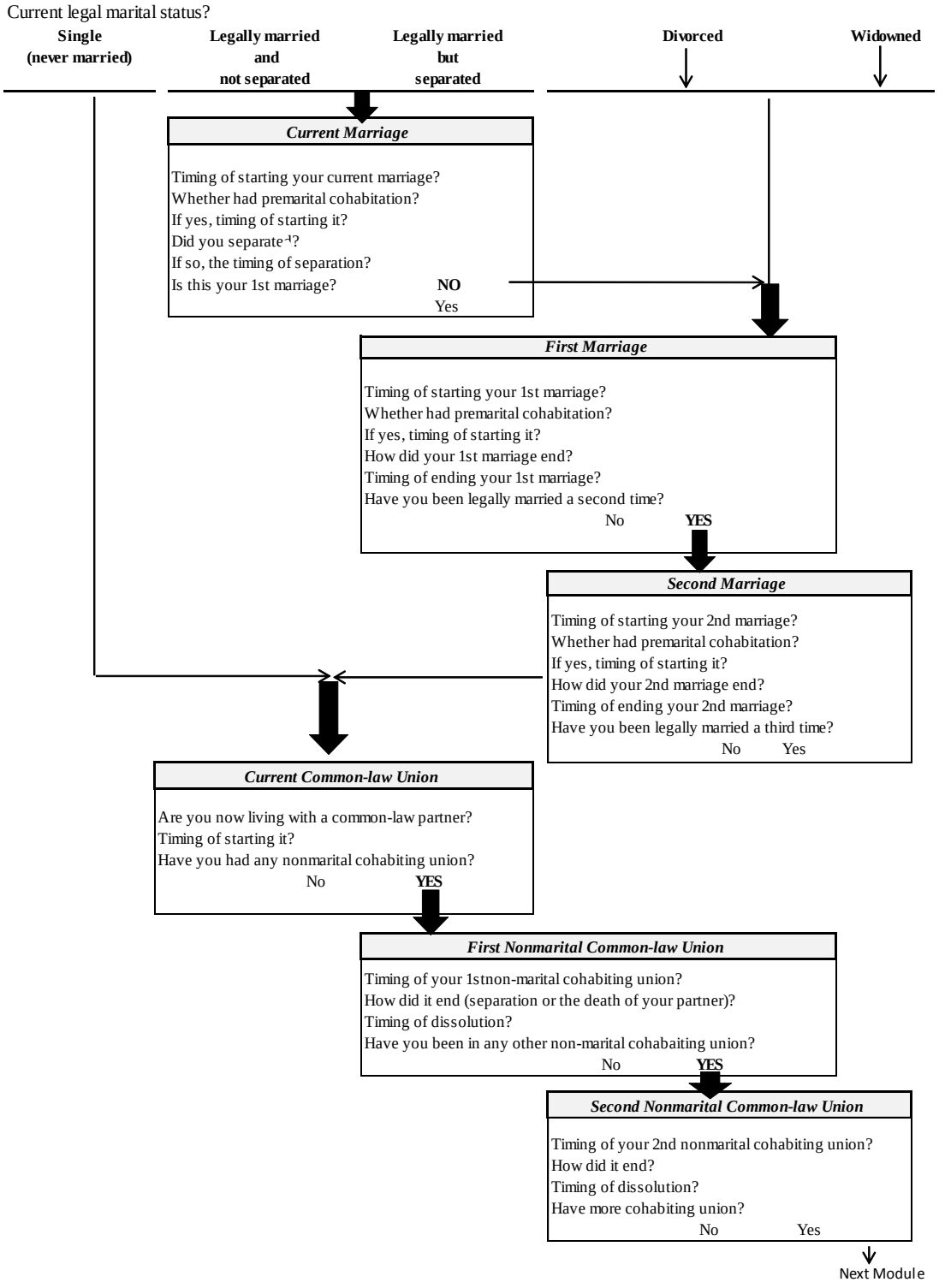
Chapter 4, entitled “the stability of men’s and women’s first and second marital dissolution: the impact of childbearing and cohabitation history”, estimates the risk factors affecting marital dissolution by gender and by marital order. Results from the log-logistic parametric modeling reveal that the influence of sociodemographic variables on first marriage is symmetric between men and women, whereas a pronounced gender asymmetry emerges regarding the covariates of the stability of second marriages. In addition, after controlling for the unobserved heterogeneity in all models by adding frailty to the log-logistic parametric modeling, the impacts of child birth and cohabitation history persist by gender and marital order. The results are discussed in the context of the concept of plastic sexuality (Giddens 1992), and the decoupling process pertaining to sexuality, conjugality, birth, and parenthood.

The last chapter summarizes knowledge of transformations of conjugal partnerships and highlights some of the major findings from the three studies. Implications are discussed, along with an agenda for future investigations in family demography, addressing both theoretical and empirical issues.

Appendix Figure 1.1 Multistate models of conjugal trajectories to the second union formation



Appendix Table 1.2 Partnership transitions and histories surveyed in the 20th cycle of General Social Survey (GSS 2006), Family Transitions



Notes:
Timing = In what month and year (e.g., In what month and year was your first marriage?)
How did the marriage end? The answers include separation and then divorce or annulment, separation and then death of spouse, death of spouse, divorce or annulment without separation, and others.
Whether had premarital cohabitation? = premarital cohabitation status (e.g., Did you and your spouse live common-law before entering into this marriage?)
Common-law partners refer to two people of the opposite sex or of the same sex who live together as a couple but who are not legally married to each other.
Common-law relationships are self-reported and could refer to unions of any length. (Statistics Canada. 2008. GSS Cycle 20: Family Transitions. Catalogue no. 12M0020G 90: page 90).
A similar figure, see Haskey (1999: 24).

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Chapter II

Conjugal Partnership Trajectories in Canada: More Complex, Differentiated, and Turbulent?

2.1 Introduction

Conjugal partnerships have undergone profound changes in Western industrialized societies, as highlighted by the second demographic transition (e.g., Lesthaeghe 1995). One fundamental change involves the greater flexibility with regard to entry into and exit from conjugal partnerships (e.g., Ambert 2009; Burch & Madan 1986; Bramlett & Mosher 2002; Dumas & Bélanger 1997; Statistics Canada 2002). The pace of changes in partnerships has been so swift that family scholars have proposed that the state of our current knowledge about conjugal partnerships might soon be out of date (e.g., Le Bourdais & Marcil-Gratton 1996; Lichter et al. 2010; Manning & Smock 2005; Seltzer 2004). For example, Andrew Cherlin (2009) coined the term the "marriage-go-round", to emphasize the rapid changes in intimate relationships. Andrew Cherlin's (1981) description of typical American family life before the 1980s is summarized by his book title *Marriage, Divorce, and Remarriage.* Yet, nearly a decade later in the preface of the second edition (1992), he remarked that the book would be more appropriately titled *Cohabitation, Marriage, Divorce, More Cohabitation, and Probably Remarriage*. Then, Cherlin (2009) highlighted the "merry-go-round" nature of intimate partnerships in his book *The Marriage-Go-Round: The State of Marriage and the Family in America Today.* The remarkable changes in conjugal partnerships described in the United States have also been observed in other industrialized countries, including Canada (e.g., Blanc 1987, Elzinga & Liefbroer 2007; Kerr et al. 2006; Statistics Canada 2002).

The transformations in conjugal partnerships have been seen as "serial monogamy", resulting in what Sharon Sassler (2010) called "partnering over the life course". Indeed, repartnering has become a regular life experience among Canadians (e.g., Statistics Canada 2002; Wu & Schimmele 2005:28). Our knowledge on partnership formation and dissolution has been expanded through substantial research, including research on first partnership (e.g., Turcotte & Bélanger 1997), marriage (e.g., Statistics Canada 2004); cohabitation (e.g., Le Bourdais et al. 2004), divorce (e.g., Balakrishnan et al.1987; Clark & Crompton 2006), remarriage (Sweeney 1997), and repartnering (Wu & Schimmele 2005). This research indicates that the course of conjugal relationships is becoming more diverse and less predictable (e.g., Beaujot 2000; Bumpass et al. 1991; Bramlett & Mosher 2002; Desrosiers et al. 1999; Goode 1982; Leridon 1990; Murphy 2000; Popenoe 1988 1993; Statistics Canada 2008).

In spite of the abundant research on family and union transformations, partnership transformations in a wide scope are less researched (e.g., Mills 2004; Poortman 2007; Schoen et al. 2007). As Bumpass and colleagues (1990:749) have suggested in the past, "remarriage must be seen as embedded in a chain of life-course transitions including first marriage, fertility, marital separation, and divorce". The dearth of research is probably due to several reasons, including the focus of researchers on specific union transitions (e.g., first partnership, marriage, and divorce), data limitations (e.g., lack of retrospective or prospective longitudinal data), and methodological challenges (e.g., inadequacy of appropriate analytical tools) (Abbott & Tsay 2000; Billari 2001; Rajulton 2001; Sassler 2010).

Understanding conjugal partnership history is vital for several reasons. First, it provides additional insights into partnership transformations from a holistic perspective, indicating how trajectories change over time in a given population. In particular, it broadens our knowledge about the transitions and trajectories of individuals across the life span, revealing how prior transitions influence successive ones. For example, despite the fact that cohabitation has been recognized as a distinct mode of family formation, little is known about the trajectories of cohabiting relationships or marriage preceded by non-marital cohabitation, (Kiernan 2002; Wu 2000). Previous research that frames cohabitation in a marital perspective (i.e., premarital or post-marital) has failed to

consider a big segment of partnership histories. Incorporating cohabitation is indispensable since it is not only an integral component of courtship (e.g., Burch & Madan 1986; McGinnis 2003), but also an alternative to singlehood or to marriage (e.g., Dumas & Bélanger 1997; Kiernan 2002; Le Bourdais & Juby 2002; Wu 2000). For instance, a small but growing amount of research has documented that serial cohabitation has increased substantially since the 1990s (e.g., Schoen et al. 2007; Lichter et al. 2010).

A further reason to study partnership trajectories is that intimate relationship history has emerged as an important form of inequality, giving rise to the "polarization of family life" (e.g., Schulze & Tyrell 2002). This is especially true for those intimate relationships formed since the 1970s, when assortative mating has become more prevalent (e.g., Goldstein & Kenney 2001; Hou & Myles, 2008). Additionally, the polarization of partnerships implies further social inequality for children in disparate families (e.g., Goldstein & Kenney 2001; McLanahan 2004). Certainly, partnership history is strongly associated with the well-being of individuals (Barrett 2000; Hetherington 2003; Waite & Gallagher 2000), in particular children whose well-being is largely affected by the partnership transformation of their parents (e.g., Bumpass & Lu 2000; Hetherington 2003; Le Bourdais & Juby 2002).

Charting the course of partnership transformations is a useful form of descriptive research. Indeed, "establishing the phenomena" is generally viewed as the commencement of scientific research by the philosophers of science (e.g., Hanson, 1958) and sociologists (e.g., Abbott 1998; Lieberson 1985; Merton 1987). In *Making It Count*, Lieberson (1985:213-9) asserted that sociological research should attempt to show "what is happening" before addressing "why is happening". Likewise, Abbott (1998: 173-175) contended that knowledge of sociology should produce "a comprehensive, interesting, and compelling account of social life" without overlooking descriptive work merely for the sake of complex causal modeling. In reflecting on causal inference in sociology since the 1930s, Abbott (1998) asserted that "Sociology will not be taken seriously again as a general science of social life until it gets serious about description". In these respects, the current study delineates conjugal partnership trajectories and transitions in Canada.

Drawing from the General Social Survey (2006), this study depicts the conjugal partnership trajectories of Canadian women born from 1936 to 1985, who were aged 21-70 in the survey year. Given that less than one percent of Canadian women aged 21-70 in 2006 experienced three or more unions, the analyses will focus on the trajectories to first marriage and the second union. This study focuses on three main questions. First, what are the prevailing conjugal trajectories to first marriage and to second union formation? Second, are the trajectories becoming more complex, differentiated, and turbulent? If so, to what extent? Lastly, how do the conjugal pathways differ in Quebec as compared to elsewhere in Canada?

This study contributes to the literature on partnership transformations by extending the existing research to include the dynamic process of partnership transitions and trajectories across cohorts and regions. It also expands our knowledge on partnership formation and dissolution by incorporating non-marital cohabitation into conjugal trajectories. Through specifying transitions by union type and order, this study broadens previous research, thereby contributing to the literature by adding distinct partnership stages. In addition, the separate analyses of partnership trajectories for women in Quebec and the rest of Canada reveal distinctive patterns on the evolution of conjugal transformations.

This chapter will be organized as follows. Section 2 will discuss the backgrounds and prior empirical studies. In the following section (Data and Methods), the multistate models guiding the sequence analysis are reviewed. Section 4 describes the trajectories to first marriage and to second union formation, and is followed by a discussion.

2.2 Theory and Prior Studies

2.2.1 The Life Course: Theory and Measures

Life course theory provides a useful standpoint for the analysis of conjugal partnership trajectories. As stated by Elder and colleagues (2003:10), the life course offers "a framework for studying phenomena at the nexus of social pathways, developmental trajectories, and social change". This perspective includes four central principles: 1) the interplay of human lives and historical times; 2) the timing of lives; 3) linked or interdependent lives; and 4) human agency in making choices (Elder, 1994:5). Through integrating the four principles, "the importance of time, context, process, and meaning on human development and family life" is accentuated (Bengtson & Allen 1993:471). Hence, rather than acting as theory-as-explanation, the life course perspective provides principles and conceptual tools to think about life dynamics, to "make time, context and process more salient dimensions of theory and analysis" (Elder 1995:104).

Referring to the four central principles, the principles of historical and social timing shape the configuration of the life course, while the principles of linked lives and agency allow for the variation in sequences (Elder 1995; Marshall & Mueller 2003; O'Rand 2003). For example, Goode (1982:11) argued that marriage, as a population-level phenomenon, is regulated by "a structure of norms, values, laws, and a wide range of social pressures". Similarly, substantial research has attributed the upheavals in family and partnerships to the changes in macro-level structures, which resonates with Elder's (2003:14) notion that "when times change, lives change" (Cherlin 2004; Coontz 2004; Le Bourdais et al. 2000; Popenoe 1988 1993). On the other hand, variability regarding trajectories in a given population is allowed through the principles of linked lives and agency. This viewpoint is consistent with the dynamics between structure and agency, such as Giddens' (1984) theory of structuration. Rather than a static relation between structure and agency, Giddens argued that social structure is "the medium and outcome of the conduct it recursively organises" (Giddens, 1984:374). Sewell (1992) further contributed to the understanding of "the duality of social structure" by accentuating the ongoing mutual construction between structure and agency. This coincides with

composition theory[3] and diffusion theory [4] used in demography in explaining cohabitation, marriage, and divorce (Bumpass et al. 1991; Liefbroer & Dourlejin 2006; Chan & Halpin 2005; Wu 2000).

As a subject of study, the life course denotes the sequence of events across a life span, which is "structured by transitions, often linked in trajectories, and by systems of age-grading" (Elder 2003:58). Most importantly, two key constructs, i.e., transition and trajectory, underlie the analysis of the life course conceptually and methodologically. Transition usually denotes a qualitative change in status (e.g., union formation or dissolution), whereas trajectory refers to a temporal ordering of transitions (e.g., cohabitation→employment →marriage).

Guided by life course theory, empirical research has attempted to address three main objectives: 1) what are the historical changes in sequences of events; 2) whether or not a dominant or normative sequence emerges; 3) what are the precursors or consequences associated with different trajectories (e.g., Amato et a;. 2008; Billari & Liefbroer 2010; Elzinga & Liefbroer 2007; George, 1993; Marini 1984; Mayer 2004:163; Rindfuss et al. 1987; Pavalko 1997; Rajulton et al. 2008). The first two objectives aid in "establishing the phenomenon" in terms of sequences and the third is to uncover the association or causality. Causality is generally traced to macro and micro-level factors, such as "radical modernity" (Beck 1992), "globalization" (Blossfeld et al. 2005), and agency (O'Rand 2003: 695).

[3] Composition theory emphasizes the impact of the composition of a population (e.g., age/sex structure) on social behaviours. For example, it has been used to explain the "cohabitation effect" – the effect of cohabitation on subsequent marital stability is dependent upon the proportion of cohabitation (Berrington & Diamond 2000), the racial differentials in transition to first marriage (Lichter et al. 1992), and the social phenomenon termed "marriage squeeze" (Schoen 1983).

[4] Diffusion theory refers to a process in which innovative social behaviours and ideas are modeled and imitated by followers through social networks. It is a process by which a nascent social structure emerges as time passes by. For examples of diffusion of demographic behaviours through social networks, see Montgomery and Casterline (1996) on fertility, Rindfuss et al (2004) on family change, and Liefbroer and Dourlejin (2006) on cohabitation,

Description of the life course involves several key concepts and measurements (Gilele &Elder 1998). As Berger et al. (1993:47) noted, "life-courses are structured by the timing of events, of interruptions and passages, by the duration of phases or statuses, and by the sequences of events and held position." Clearly, probability, timing, and sequence are key elements in portraying the life course. Pavalko (1997:131) proposed four empirical dimensions for life course study – patterns, sequences, pace, and reversibility. Methodologically speaking, Billari et al. (2006:38) suggested that "for the sake of simplicity, the age at which events are experienced is taken as an indicator of the timing, the observed order as an indicator of sequencing, and the observed number of events as an indicator of the quantum." Conceptually, individualization is used to denote the variability or heterogeneity in the sequences of life course within a given population over time (Brückner & Mayer 2005). The individualization of the life course is operationalized through three processes, including destandardization, deinstitutionalization and differentiation (Buchman 1989, Beck & Beck-Gernsheim 2002; Brückner & Mayer 2005). Obviously, this is opposite to the homogeneity described by the counter process, such as standardization and institutionalization. **Destandardization** refers to increasing variation in sequences in terms of the increased number of segmented populations, more dispersed ages and diverse durations (Brückner & Mayer 2005:32-33). Through destandardization, the uniform and universal life course becomes more diverse and less similar, leading to the decline of the dominant life course. When the trajectories are linked to the state, legislation, and social norms, the destandardization process emerges as deinstitutionalization**. Deinstitutionalization** refers to the decline of social norms in shaping human behaviours within a social context (Cherlin 2004:848). Accordingly, this leads to less predictable transitions and trajectories.

Moreover, **differentiation** refers to the process characterized by the increased number of distinct stages and sequences as well as the larger variation in timing of events (Brückner & Mayer 2005:33; Mills 2004; Pavalko 1997). In developing a more precise and quantified definition of differentiation, Elzinga & Liefbroer (2007) developed the measure of "turbulence". Drawing primarily from hydrodynamics, where it refers to a property of flow, turbulence is characterized by unstable speed and direction, or irregular and rapid changes. Conceptually, turbulence describes the "increasing number of

transitions and/or an increasing number of distinct states and/or increasing variation in the timing/duration of events" (Elzinga & Liefbroer (2007:232). Essentially, it measures two aspects: 1) the number of distinct pathways that can be extracted from the sequence and 2) variability in the time spent in the successive states. The first aspect of quantum is generally termed "pluralisation" (Mills 2004), the second characteristic of timing is described as having a "volatile and haphazard nature" (Elzinga & Liefbroer 2007:228). Differentiation obviously implies a greater complexity and diversity in life paths. As a result, modern life-course biography in many domains has increasingly taken "a life of one's own", with more fluidity and less universal constraints, culturally or structurally. Crucial life-course pathways, such as pathways to adulthood (Shanahan 2000), education-work-retirement (Brückner & Mayer 2005), and conjugal partnerships (Giddens 1992), have undergone processes of destandardization, deinstitutionalization, and differentiation.

2.2.2 Prior Studies on Trajectories of Conjugal Unions

Given that conjugal trajectories are less researched, whereas first union and first marriage are usually included as milestones in pathways to adulthood, this section will review the different trajectories to situate the current study in a broader context. As mentioned before, the primary questions concerning trajectories are about its shape and variation in a given population. Considerable research on pathways to adulthood includes either first cohabitation or first marriage, or both, and therefore, the research on trajectories to adulthood provides useful insights into conjugal trajectories in the early years of adult life.

Consistent with the broad trends of the individualization of the life course since the 1950s, pathways to adulthood have been found to be destandarized (e.g., Billari & Liefbroer 2010; Ravanera et al. 1998; Marini 1984; Mouw 2005; Fussell & Furstenberg 2005; Shanahan 2000). The deferred youth transitions, dubbed "generation on hold" by Canadian sociologists Côté and Allahar (1996) or "failure to launch syndrome" in popular culture (Henig 2010), resonates with the debate on the future of marriage – whether marriage is simply being delayed or completely being forgone (Becker 1981; Beaujot 2006; Goldstein & Kenney 2001; Oppenheimer 1988). Referring to the five milestones

(i.e., home-leaving, education completion, labour force entry, conjugal formation, and parenthood) in transitions to adulthood (e.g., Modell et al.1976), Henig (2010) reported a striking decline in the proportion completing all five stages in the United States and Canada. In the United States, for example, by age 30, 77% of women and 65% of men had passed all five milestones in 1960, but the corresponding percentages fall to about 50% and 33% in 2000, respectively. Likewise, a typical Canadian 30-year-old in 2001 had only completed the same number of transitions as a 25-year-old Canadian in the early 1970s.

In addition, family-life trajectories among young adults have been shown to be more dissimilar, complex, and pluralized (e.g., Billari & Liefbroer 2010; Elzinga & Liefbroer 2007; Mills 2004; Mouw 2005). Elzinga and Liefbroer's (2007) cross-national comparative study on family-life trajectories involving cohabitation, marriage, and birth, for example, depicts a picture of pluralization and turbulence in trajectories across countries. Using sequence analysis and Fertility and Family Survey (FFS) data on women who were born between 1945 and 1964 from 19 industrialized countries, including Canada, they concluded that family-life trajectories across countries have undergone the process of destandardization. They found strong evidence for supporting their three hypotheses – dissimilarity, variety, and turbulence – pertaining to family-life trajectories across cohorts and countries.

It is noteworthy that the case of Canada stands out in Elzinga and Liefbroer's (2007:243) analyses. When comparing Canada to the other 18 countries, the family-life trajectories of Canadian younger adults are even more turbulent: the ordering of family-life (i.e., cohabiting, marriage, and birth) is less predictable and the variations in durations spent in different states are increasing in Canada. Also, serial cohabitation without children has become more popular in Canada over time, while it is uncommon in other countries. Likewise, using recent retrospective data from the European Social Survey wave 3 (ESS-3), Billari and Liefbroer (2010) concluded that the pathways toward adulthood in Europe, marked by first union and first birth, are best characterized as being late, protracted, and complex.

Several studies have examined the transformation of a series of successive partnerships (e.g., Mills 2004). Unlike many other studies on family-life trajectories, the study by Mills (2004) focuses merely on exploring the interdependency of conjugal transitions and the variation in partnership histories in three national settings, including Canada, the Netherlands, and Russia. Her study compares two cohorts of women (i.e., the 1946-50 and 1961-65 birth cohorts). Quite a number of hypotheses regarding partnership histories were formulated, such as the postponement hypothesis and cohabitation re-partnering hypothesis.

The results from Mills's (2004) study vividly portray partnership histories by presenting single transition, such as marriage, divorce, and repartnering. Her findings clearly show that partnership histories have become increasingly complex and pluralized among the younger cohort in comparison to the older cohort. Specifically, the younger generation is more likely to stay single longer, to start the first union as cohabitation, to dissolve a cohabiting union without transforming to marriage, to have shorter duration of marriage, to repartner as cohabitation with a faster pace, and to have more complex partnership histories, when compared with the older generation. Although this approach to partnership transformation makes it easier for readers to grasp the changes in partnership histories, it fails to provide a broader view of partnership histories. For example, little is known about the trajectory of cohabitation, marriage, divorce, more cohabitation, and probably more marriage, as suggested by Cherlin (2009). In addition, since the conjugal life in Quebec and Canada outside of Quebec differs considerably, her description of partnership transformations among Canadian women fails to capture the striking differentials by region (Laptane 2006; Le Bourdais & Marcil-Gratton 1996; Le Bourdais et al. 2004; Kerr et al. 2006).

Studies on the "relationship career" and subsequent union transitions have also shed light on union trajectories (e.g., Hall & Zhao 1995; Poortman 2007). Wu and Schimmele (2005) explored the variations in the repartnering process by the status at exit to first union, on the basis of the 1995 General Social Survey. They developed four paths of exiting statuses of the first union*: 1) cohabit → separate, 2) cohabit → marry → separate/divorce, 3) cohabit/marry →death of partner, and 4) marry → separate/divorce* (p.34). Their findings from event history analysis show that first union exiting status

significantly affects the repartnering process, i.e., probability, timing, and types. For example, they found that the first cohabiting union (*cohabit→separate)* is related to an earlier timing of repartnering and a greater likelihood of re-entering subsequent cohabitation, as compared to the first marital union. Furthermore, Mills (2004) showed that the probability of entering cohabitation among Canadian women from the 1946-50 birth cohort peaks at two age periods: 20-25 and 36-38. This clearly signifies two distinctive waves of cohabitation among those women. Aside from premarital cohabitation, the prevalence of post-marital cohabitation has offset the declines in remarriage (Bumpuss & Lu 2000; Wu & Schimmele 2005).

2.2.3 Prior Studies on Partnership Formation and Dissolution

2.2.3.1 Cohabitation

The unprecedented prevalence of cohabitation has been identified as one of the most significant shifts in family demographics of the past half century (e.g., Smock 2000; Wu 2000). Although cohabitation started to spread in the early 1970s, it has became a modal way of first entry into conjugal union and the preferred union following separation or divorce (e.g., Bumpass & Lu, 2000; Burch & Madan, 1986; Kiernan 2002; Le Bourdais et al. 2000; Statistics Canada 2002; Wu & Schimmele 2005). A large body of research has examined the prevalence, trends, determinants, and consequences of cohabitation (e.g., Dumas & Bélanger 1997; Hall & Zhao 1995; Smock 2000; Wu 2000). As expected, for instance, the percentages of couples living in cohabitation increased in Canada over time: it rose steadily from 0.7 % in 1976 to 6.3% in 1981, 11.2% in 1991, 16.4 % in 2001, and 18.4% in 2006 (Kerr et al. 2006:88; Wu 2007:7). However, these figures only give us a onetime snap-shot regarding cohabitation, without the information on the types of those cohabitations (e.g., premarital or post-marital) and the associated transitions.

Cohabitation as a way of starting conjugal life has spread quickly in Canada since the 1970s. Using the 1995 General Social Survey, Le Bourdais et al. (2000:15) found that the percentage of first union starting with cohabitation increased rapidly across cohorts: from only 6% for women born in 1936-1945 to 52% for women born in 1966-1975. Similarly, Mills (2004:159) observed a sharp increase in cohabitation as the first union and a notable decline in direct marriage: the percentages taking the path of "*nu1c" (never-in-union to 1st-cohabitation)* are 8.1% and 42.7% for Canadian women in 1946-50 and 1961-65 birth cohorts; however, the corresponding percentages of direct marriage, "*nu1m" (never-in-union to 1st-marriage),* are 78.6% and 45.6%, respectively. Thus, cohabitation has become an integral early phase in partnership biographies (McGinnis 2003; Mills 2004; Smock 2000).

The follow-up question that has attracted substantial research attention is the transition out of cohabitation. This is a substantively important question, because it not only concerns the nature of cohabitation but also the future of marriage (e.g., Kiernan 2002; Smock 2004; Wu 2000). To some extent, the evolution of cohabitation can be seen through the typology that has been used to describe the phenomenon. This typology is largely based on four indicators –incidence, timing, transition, and fertility (e.g., Heuveline & Timberlake 2004: 1219). Despite the variations in the typology, two major categorizations stand out: cohabitation acts as "trial marriage" and an alternative to marriage" (e.g., Kiernan 2002; Rindfuss & VandenHeuvel 1990; Le Bourdais et al. 2004).

The transition of cohabitation from a probationary stage for marriage to the substitute of marriage is reflected in the shift of "cohabitation first, then marriage" (Manning & Smock 2002) to "cohabitation first, then marriage or never" (Sobotka & Toulemon 2008:100). The highest probability of ending cohabitation by marriage occurs when it mainly serves as "prelude to marriage". Dumas and Bélanger's (1997) typology of Canadian cohabitation on the basis of 1995 Canadian General Social Survey also echoes the emerging decoupling of cohabitation and marriage, given the declines in percentages of "prelude to marriage" and "trial marriage" from the 1970s to the early 1990s. In contrast, there is a steady increase in "unstable cohabiting unions" and "a substitute for marriage" across time, especially in Quebec. The increasing trends of terminating cohabitation without marriage after the 1990s have been documented in

recent research (Bumpuss & Lu 2000; Lichter et al. 2010; Wu & Balakrishnan 1995; Tach & Halpern-Meekin 2009). In addition, cohabitation lasts longer over time, changing from an ephemeral stage to a relatively stable phase, dubbed "resiliency" in the literature (e.g., Dumas & Bélanger 1997; Mills 2004:164).

With respect to cohabitation transitions over time and across nations, Kiernan's (2002) partnership transition theory provides insights. The thrust of this theory is the institutionalization of cohabitation, suggesting a transformation of fragile and ephemeral cohabiting relationships to a relatively longer and stable stage of cohabitation. Given the shifting meanings of cohabitation and marriage, research has shown that cohabitation is becoming a different type of partnership, involving different types of persons in diverse contexts (e.g., Kiernan 2002; Manting 1996; Mills 2004).

In Canada, another important variation in conjugal life involves regional differences (Beaujot & McQuillan1982; Le Bourdais & Marcil-Gratton 1996; Le Bourdais et al. 2004; Laplante 2006; Pollard & Wu 1998). The faster changes in conjugal life in Quebec have been shown by Le Bourdais & Marcil-Gratton (1996). For example, according to the 2006 Canadian census, nearly 35% of couples in Quebec were living in cohabiting unions, but only 13% in Canada outside of Quebec (Wu 2007:13). In addition, in the early 1990s, the ratios of starting first union as cohabitation between women in Quebec and elsewhere in Canada were four in five (4/5) and one in two(1/2), respectively (Le Bourdais et al. 2004:934).

In addressing the changing nature of cohabitation and marriage in Canada, Le Bourdais et al. (2004) concluded that there are profound regional differences: cohabitation has become an alternative to marriage in Quebec in the sense of becoming a relatively stable living arrangement involving raising children, whereas it is still a "prelude to marriage" in the rest of Canada. Furthermore, Kerr et al. (2006) explored the demographic and socioeconomic differences with regards to marriage and cohabitation in Quebec and elsewhere in Canada. They documented remarkable regional differences between cohabitation and marriage in terms of the education, labour force participation, median income, and homeownership.

The driving factors behind the regional differentials are generally attributed to the differences in religion, culture, ideology, and social structures pertaining to conjugality in

Quebec and elsewhere in Canada (e.g., Le Bourdais & Marcil-Gratton 1996; Laplante 2006). For example, the regional divergence in conjugal life can be traced back to the different legal traditions, which Quebec follows the Civil Law tradition, in contrast to the rest of Canada's tradition of British Common Law (Beaujot et al. 2012). The two legal traditions lead to one crucial difference in conjugality between Quebec and the rest of Canada, that is, the right of equality of treatment between marriage and cohabitation (Beaujot et al. 2012; Le Bourdais et al. 2004). In the rest of Canada, common law unions are treated more similarly to marriage given certain durations (e.g., three years or more) or the birth of a child in a union of some permanency. Under Quebec Civil Law, there has been a tradition of two types of conjugal contracts whereby common-law unions (union libre) is treated rather differently than marriage with regard to the responsibility to each other after the relationship ends (Beaujot et al. 2012; Le Bourdais et al. 2004). At separations, the legal system in Quebec respects the private nature of common-law contracts signed by partners. In addition to the different legal traditions, the secularization movement during the 1960s in Quebec, known as the Quiet Revolution, separates Quebec from the deep influence of Catholic Church while promoting individualism, secularism, and gender equality. This movement results in a wider acceptance of cohabitation as a new form of conjugal life among Quebec men and women than other Canadians, given that it allows for the redefinition of private life (Laplante 2006).

Another crucial aspect that has stimulated considerable research attention is the "cohabitation effect", referring to a higher level of marital instability and lower marital quality associated with cohabitation (e.g., Hall & Zhao 1995; Stanley et al 2006:499). For instance, on the basis of the 1990 General Social Survey, Wu & Balakrishnan (1995:526) showed that about three in ten (3/10) first marriages preceded by cohabitation survive five years, whereas nine in ten (9/10) direct first marriages survive for ten years. The destabilizing effect of cohabitation on the stability of subsequent marriages is explained by two major mechanisms, namely "cohabitation selectivity" and "cohabitation experience" (Hall & Zhao 1995). However, this negative association is challenged by the ongoing diffusion of cohabitation, which results in cohabitation as a common life experience instead of deviant social behaviours as in the 1970s (Liefbroer & Dourlejin 2006; Tach & Halpern-Meekin 2009).

2.2.3.2 Marriage

Along with the rise in cohabitation, the decline in marriage and surge in divorce across Western societies are among the main features of the "second demographic transition". The debate on the future of marriage, i.e., marriage postponement or retreat, has dominated the discussion on the transition to first marriage (e.g., Goldstein & Kenney 2001; Oppenheimer 1988). To tackle this question, two fundamental aspects of marriage should be taken into account: the probability and the timing of marriage. Much evidence from prior empirical work pertaining to this question is inconclusive (e.g., Goldstein & Kenney 2001; Le Bourdais et al. 2004). Like other Western nations, marriage has been delayed dramatically in Canada, but retreat from marriage has also occurred, to some extent, among the younger generation and especially in Quebec, where marriage began to lose ground progressively since the mid-1970s (Le Bourdais & Marcil-Gratton 1996; Le Bourdais et al. 2004). For instance, by 2000, less than 40% of women living in Quebec were expected to marry at least once, but the corresponding figure is about 60% in the rest of Canada (Le Bourdais et al. 2004: 930). The marital transition is strongly tied to the stages of cohabitation mentioned previously (e.g., Dumas & Bélanger 1997; Wu & Balakrishnan 1994).

Apart from the issues of first marriage entry, divorce is viewed as one major force in "disturbing the nest" (Becker et al. 1977; Balakrishnan et al.1987; Hall & Zhao 1995; Popenoe 1988 1993). There has been media hype that one out of two marriages will dissolve in Canada (Ambert 2009). In spite of its general inaccuracy, the figure reflects the all-time high record in late 1980s in Canada and the United States (Raley & Bumpass 2003; Statistics Canada 2008). In general, the divorce rate is nearly one out of three in Canada since1980 (Statistics Canada 2008a). Marriage in Quebec is even more fragile than in the rest of Canada (Le Bourdias et al. 2004). The upsurge in divorce is not only associated with the deinstitutionalization of marriage, but is linked to other factors, including macrostructure, demographics and the life course, and family processes (Balakrishnan et al. 1987; Popenoe 1993; for reviews see White 1990; White & Rogers 2000; Lyngstad & Jalovaara 2010).

2.3 Data and Methods

2.3.1 Data and the Sample

The dataset used in this research was drawn from the 20th cycle of the General Social Survey on Family Transitions, conducted by Statistics Canada in 2006. This survey is a national representative sample of 10,346 men and 13,262 women aged 15 years and older in Canada, excluding residents of the Yukon, Northwest Territories, and Nunavut, and full-time residents of institutions. The overall response rate for the survey was 68.7 % (see Statistics Canada, 2006 and Introduction Chapter, for detailed information about the sample design and estimation procedures). The survey collected information pertaining to diverse aspects of the family life, such as parental background, home-leaving, conjugal life, fertility, education, and work histories.

Detailed retrospective histories of marital and nonmarital conjugal unions (i.e., from the current union to the fourth marital and cohabiting union), up to the fourth union, were collected on a monthly time scale, allowing for a sequence analysis on union trajectories. Respondents were asked to recall several aspects of their conjugal union, including the timing of starting, ending, and child birth. For example, several questions regarding first marriage were as follows: 1) "In what month and year was your first marriage?"; 2) "Did you and your first spouse live common-law before entering into this marriage?"; 3) "In what month and year did you and your first husband/wife begin to live together?"; 4) " Did your first marriage end in: … ?" and 5) "In what month and year did the dissolution occur?" Appendix Figure 2.1 displays a flow diagram on the question modules, illustrating the sequence of questions about cohabitation and marriage used in this study.

The study sample is restricted to Canadian women born from 1936 to 1985, aged 21-70 in 2006. As suggested by Settersten (2003), age embodies the analytic link between changing lives and changing historical contexts. This historical timing captures the changes in conjugal trajectories over cohorts, although less variation will be observed in the earliest cohorts (i.e., 1936-45) and the latest cohorts (1976-85). This is because of the homogeneity in conjugal behaviours in the earlier birth cohort, and censoring in the youngest cohort. Cases with missing values on the timing of union transitions (e.g., age of

premarital cohabitation before the first marriage) or incorrect values for the timing of events (e.g., age of premarital cohabitation is higher than marriage) were excluded in the analyses. As a result, the final sample consists of 9,570 of individuals, 2,293 from Quebec and 7, 277 from the rest of Canada.

Ideally, it would be preferable to also analyze conjugal patterns for men, since partnering across the life course differs significantly by gender (e.g., Bumpass et al. 1990:754; Sassler 2010; Wu & Schimmele 2005). For instance, men are more likely to marry and remarry than women (Sweeney 1997; Wu & Schimmele 2005). The focus on women in this study is mainly to simplify the analyses since the sequence analysis by multiple cohorts already produces relatively complex patterns.

2.3.2 Measurement and Methods

Measures

Trajectories consist of transitions among a series of events, while transitions mark the start and the end of trajectories, i.e., the origin state and absorbing state (Rajulton 2001). Since the focus of analyses in this study is trajectories to first marriage and second union, the two absorbing states refer to entry into first marriage and second union. To trace the trajectories, several partnership states are identified in this study: 1) never in union (i.e., the origin state starting at age 15), 2) first cohabitation, 3) first dehabitation, 4) first marriage, 5) first demarriage, 6) second cohabitation, 7) second dehabitation, and 8) second marriage. The variables from the survey that were used to create the timing of the above union transitions (cohabitation and marriage) are presented in Appendix Table 2.2. This measurement box corresponds to the flow diagram in Appendix 2.1. Both Appendices embody the complexity of sequential variables used in this study.

The term "dehabitation" refers to the dissolution of cohabiting unions by separation (Mills, 2004:172). Likewise, "de-marriage" symbolizes the dissolution of marriage either through separation or divorce (Théry 1994). A marriage preceded by premarital cohabitation is counted as a single union, since the partner remains the same (e.g., Haskey 1999). Also, first marriages dissolved by death of partners were censored, since the focus of the current study is the voluntary transformations in partnerships. Given

that a small number of cohabitations are dissolved by the death of cohabiting partners, they are not excluded from dehabitation.

To chart the partnership trajectories, notations (e.g., a string of characters) will be used to represent transitional events (Billari 2001, Haskey 1999:15; Mills 2004: 161). That is, several short-hand symbols stand for the above eight partnership states, including nu, 1c, 1dc, 1m, 1dm, 2c, 2dc, and 2m, respectively. The symbol "→" indicates a transition between the two states, signifying a qualitative change in status. Basically, the notations with the letter "d" denote partnership dissolutions either through "de-habitation" or "de-marriage", and the other ones (1c, 1m, 2c, and 2m) suggest partnership formation, with the exception of the origin of never-in-union *(nu).* For example, one trajectory to first marriage through premarital cohabitation can be represented as follows: n*ever-in-union → 1st-cohabitation → 1st-marriag*e *(or nu→1c→1m).* Similarly, a trajectory to the second marital union can be expressed by n*ever-in-union → 1st-marriage→1st-de-marriage→2nd-marriage (or nu→1m→1dm→2m).*

Figure 2.1 and Figure 2.2 display the multistate model of trajectories examined in this study. Figure 2.1 presents the six-state model trajectories to first marriage, with four transient states and one absorbing state in the sequences. Likewise, Figure 2.2 shows the seven-state model for the trajectories to the second union formation, with absorbing state either as the second cohabitation or as second marriage.

Statistical Analysis: LIFEHIST Program

A program called LIFEHIST is used to trace various trajectories of partnerships (Rajulton 1992, 2001). The basic ideas on analyses of life histories and how to use the computer package LIFEHIST are outlined in Fernando Rajulton (2001). The methodology uses a state space approach in the analysis of life histories. As Rajulton (2001:344) stated, "A life history analysis involves statistical methods for examining all the three aspects of life history information, namely the order, sequence and timing of events (or transitions)." Assuming that past history is important and influential (e.g., a non-Markovian assumption), "the program for non-Markov analyses included in LIFEHIST makes use of the same algorithm used for a semi-Markov model but preserves the different sequences of events already experienced in computing the probability of

experiencing a succeeding event" (Rajulton 2001:351). Essentially, this method "involves a multiple-decrement life table technique that estimates the conditional probabilities of transition from the previous state to each successive state in the sequence" (Rajulton et al. 2008:10).

LIFEHIST analysis produces three basic results regarding transitions, including 1) the conditional probabilities of transitions from one state to another, 2) the standard errors of these probabilities, and 3) mean duration of stay in each state. These conditional probabilities have been corrected for censoring and thus provide the best possible estimates of true probabilities (unless there is a very heavy censoring). Accordingly, the heavy censoring among the younger cohorts in the current study (e.g., 1975-1985) is expected to result in downward estimates with respect to union transformations, considering the delayed transition to adulthood in Canada (Beaujot 2006).

Also, the conditional probability reduces the uncertainty in predicting the occurrence of a subsequent event. The probability of experiencing a specific trajectory is the product of a series of conditional probabilities. Likewise, summing up the mean durations of stay in each state provides a good estimate of the average duration of a trajectory (since the means are computed from the conditional probabilities that have been corrected for censoring).

The LIFEHIST output provides standard errors of transition probabilities, for each final cumulative probability of transition. The calculation of these standard errors[5] is not a standard one, because it is a cumulative probability (Ravanera & Rajulton 2004: 19-21). In particular, the standard errors provided in the LIFEHIST output are for the eventual probability of experiencing a transition, rather than the standard error of the probability of making a sequence of transitions. As it mentioned before, the probability of experiencing a trajectory is obtained by multiplying the sequence of conditional probabilities. Fernando Rajulton (1992, 2001, 2008), the author of the computer package LIFEHIST, has

[5] The calculation of the standard errors of the cumulative probability of transition is based on semi-Markov processes. The formula used in LIFEHIST to compute the standard error (SE) is as follows, $Std\ error = p\sqrt{\frac{n-m}{nm}}$, where p = the computed probability, n= the number of persons at risk, m = the number of persons who make that specific transition.

acknowledged the methodological challenges of computations of the standard error of the probability of trajectories. The challenges lie mainly in the lack of knowledge of the statistical distribution of such a sequence of multiple transitions. Undoubtedly, this distribution definitely violates all the basic statistical assumptions built into deriving the standard error (e.g., the multiplication of conditional probabilities cannot follow a normal distribution). In fact, the distribution becomes very complicated.

Given that the main purpose of this paper is to provide an exploratory and descriptive analysis on partnership trajectories, the results will be centered on three main indicators of trajectories, the probability, order, and timing of making a sequence of transitions (Billari 2001; Rajulton 2001).

Figure 2.1 First marriage: Multistate models of conjugal trajectories to first marriage

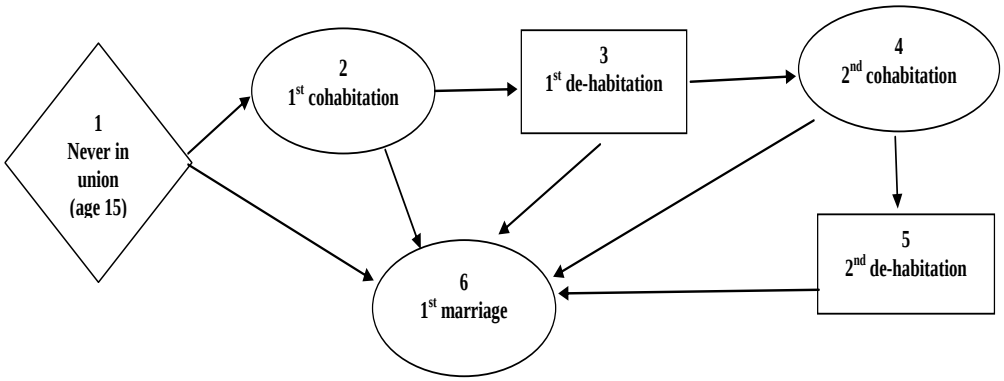
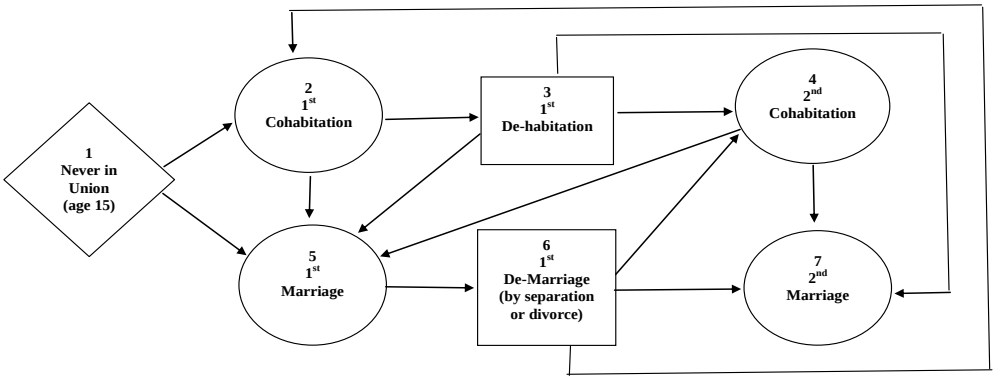


Figure 2.2 Second union formation: Multistate models of conjugal trajectories to second union formation



Notes: marriage preceded by premarital cohabitation is regarded as one union, because the partner remains the same.

2.3.4 Analytical Strategy

Before exploring partnership trajectories, a cross-sectional descriptive analysis is presented to provide a general picture of the proportions of conjugal union experiences. Next, the union trajectories are traced by the LIFEHIST program. The trajectory analysis usually follows a given population (e.g., birth cohorts), considering that life event sequences are shaped by and reflect different historical and social timing (Elder 2003). Birth cohort has often been used as a proxy of social and historical change (Ryder 1965). Elder's (1974) seminal work *Children of the Great Depression*, for example, has illustrated how life histories in two cohorts of Californian men born around the Great Depression differ substantially.

Ten-year birth cohorts are used to ensure that sufficient numbers remain in the analyses, since the number of individuals declines sharply over the transitions (Rajulton 2001). Also, the analyses trace trajectories that are experienced by at least ten individuals. Similar procedures were applied in prior studies (e.g. Haskey 1999; Rajulton & Burch 2010). Accordingly, there are five birth cohorts for women born from 1936 to 1985, including 1) 1936-1945; 2) 1946-1955; 3) 1956-1965; 4) 1966-75; 5) 1976-85. The trajectories to first marriage are traced by following the five birth cohorts. However, the pathways to the second union formation are only explored for women in the 1946-1975 birth cohorts. The exclusion of the oldest (1936-45) and youngest cohort (1976-85) in trajectories to second union is due to the lower variability and the censoring effect (e.g., Bumpass et al. 1990; Ravanera et al. 2006). In other words, women in the earliest cohort follow a dominant trajectory to second union, and women from the younger latest cohort fail to have adequate time to experience second union.

Due to the complex sampling procedures in the survey, individual (fractional) sampling weights are used in all statistical procedures. The sampling weights provided by Statistics Canada are based on many factors, including the sampling design (Statistics Canada 2008b). By using these weights (WGHT_PER), the complexities of sampling design are largely taken into account, and it is expected that reasonable estimates of population parameters are produced. Given that conjugal life differs considerably

between Quebec and the rest of Canada, separate analyses by region are conducted (e.g., Le Bourdais & Marcil-Gratton 1996; Laplante 2006).

2.4 Results

2.4.1 Distribution of Conjugal Partnerships

Table 2.1 provides the distributions of conjugal union experiences among Canadian women born in given birth cohorts in Quebec and elsewhere in Canada. The top panel of Table 2.1 presents proportions experiencing one or more unions. The significantly lower percentages among the youngest cohort are mainly due to censoring, i.e., women aged 21-30 in 2006 did not have enough time to experience the various subsequent union transitions. Presumably, these percentages will increase over their subsequent life course. The striking changes are the sharp increase in percentages having at least one union and the steady decrease in percentages having at least one marriage. The difference is even more pronounced in Quebec than in the rest of Canada. For instance, the percentages having at least one marriage started at a similar level (90%) among the oldest cohort in the two regions, but it dropped to about 34.6% and 17.3% in the rest of Canada and Quebec among the youngest cohort, respectively. Conversely, the percentages having a first union remain relative stable over cohorts. Although the low percentages of marriages among the latest cohort can be attributable to the censoring effect, this offers strong evidence for the role of cohabitation in the decline of marriage (e.g., Burch & Madan 1986; Turcotte & Bélanger 1997). Marriages are also more likely to be preceded by premarital cohabitation: the percentage of at least one marriage without premarital cohabitation plummets rapidly, falling from more than 90% among the oldest cohort in both regions to about 20% and 7.5% among the youngest cohort in the rest of Canada and Quebec, respectively.

As shown in the middle panel of Table 2.1, the percentages of first union starting with cohabitation or marriage are reversed over birth cohorts. First union starting with cohabitation rises sharply cross cohorts, increasing from about 5% among the oldest cohort to more than two thirds among the youngest cohort. The substantial differences between first union starting with cohabitation and having at least one cohabitation among

the older cohorts (e.g., 14.2% and 3.5% for the 1936-45 birth cohort in the rest of Canada, with the responding figures of 15.2% and 4.5% among Quebec women) indicate post-marital cohabitation among the older cohorts.

The bottom two panels of Table 2.1 display the proportions having two or more unions and separations. The total percentages having at least two unions are nearly 20% and 25% in the rest of Canada and Quebec. The percentages having at least two marriages are far smaller relative to the number of two unions, especially in Quebec. Moreover, Quebec has higher separation rates than the rest of Canada, with the total percentages of 35% and 28% having at least one separation, respectively. Taken together, Table 2.1 shows divergent patterns of complex conjugal life experiences among women in the rest of Canada and Quebec.

Table 2.1 Proportions (%) of study sample experiencing given partnership transitions, by birth cohort, region, women

	Rest of Canada						Quebec					
Age in 2006	61-70	51-60	41-50	31-40	21-30		61-70	51-60	41-50	31-40	21-30	
Birth cohort	1936-45	1946-55	1956-65	1966-75	1976-85	Total	1936-45	1946-55	1956-65	1966-75	1976-85	Total
Sample												
Total respondents	920	1431	1830	1592	1504	7277	328	491	567	457	450	2293
Percentage	12.6	19.7	25.1	21.9	20.7	100.0	14.3	21.4	24.7	19.9	19.6	100.0
One or more unions												
At least one union	96.8	96.3	95.1	90.3	57.2	86.7	94.5	95.3	96.3	92.3	66.9	89.3
At least one marriage	95.5	93.4	87.9	79.0	34.6	77.0	92.1	85.7	70.3	49.2	17.3	62.1
At least one common-law union	14.2	26.6	37.4	43.0	37.2	33.5	15.2	40.7	66.0	73.1	60.1	53.6
At least one common-law union followed by a marriage	6.0	17.5	24.4	28.8	13.2	19.3	3.7	20.8	33.6	27.4	9.8	20.6
At least one marriage without premarital common-law	93.9	83.0	67.8	51.6	21.5	61.0	90.5	66.7	38.9	22.3	7.5	42.8
First Union												
First union starts with marriage	96.5	85.3	69.4	55.9	36.6	69.2	95.5	70.1	39.9	23.2	11.3	47.6
First union starts with common-law	3.5	14.7	30.6	44.1	63.4	30.8	4.5	29.9	60.1	76.8	88.7	52.4
Two or more unions												
At least two unions	20.9	25.7	25.3	17.5	7.7	19.5	12.8	24.8	33.6	30.3	13.8	24.2
At least two marriages	15.3	18.2	12.2	5.0	--	9.8	--	7.5	5.5	--	--	4.4
Separation												
At least one separation	26.8	35.3	35.0	25.4	16.3	28.1	25.3	35.2	45.3	39.7	23.9	35.0
At least two separations	5.8	8.7	9.8	6.2	--	7.3	--	9.4	14.5	12.4	--	9.6

Notes: -- indicates samples too small to produce reliable etimates

2.4.2 Trajectories to First Marriage

2.4.2.1 Probabilities of Trajectories to First Marriage

Table 2.2A and Table 2.2B present the trajectories to first marriage by cohorts for the rest of Canada and Quebec from the LIFEHIST analysis, respectively. The probabilities, timing, and quantum of trajectories are derived from three types of indicators: 1) the conditional probabilities of transitions; 2) mean durations (in years) of each state; and 3) the number of transitional events in the trajectories. Five prevalent pathways to first marriage are shown. The types and number of cohabitations preceded by first marriage differentiate the trajectories.

Firstly, the bottom panels of Table 2.2A and 2.2B provide the summary information on the trajectories, which is further illustrated in Figure 2.3. The total probabilities of trajectories to first marriage for a birth cohort are derived from the combined probabilities of different trajectories. For example, for the 1976-85 birth cohort in the rest of Canada and Quebec, the total probability of first marriage trajectories is 0.71 and 0.30, respectively. This implies that there is a probability of 0.29 and 0.70 for not entering first marriage or taking some other trajectories to marriage (e.g., first marriage preceded by three or more cohabitations).

A summary of probabilities of trajectories and proportions of non-direct routes for the five birth cohorts and the two regions are displayed in Figure 2.3. Two striking changes shown in Figure 2.3 are the rapid decline in the total probability of first marriage and substantial increase in the proportion of non-direct routes to marriage, particularly in Quebec. Both regions start with a similar level of first marriage (0.92) among the earliest cohort, but the probability continues to decline across cohorts, reaching 0.80 and 0.53 among the latest birth cohort in rest of Canada and Quebec, respectively. This rapid decline contrasts with the relatively stable and high probability of first union entry across cohorts. This substantial difference is a strong signal of marriage retreat, particularly in Quebec, where marriage started to lose ground progressively since the 1970s and has been substituted by the alternative of cohabitation (Le Bourdais et al. 2004).

Table 2.2A Probabilities and mean duration of trajectories to first marriage by birth cohort, Rest of Canada, Women

Rest of Canada Age in 2006	**1936-45** **61-70**			**1946-55** **51-60**			**1956-65** **41-50**			**1966-75** **31-40**			**1976-85** **21-30**		
	N	Prob.	Dur.	N	Prob.	Dur.	N	Prob.	Dur.	N	Prob.	Dur.	N	Prob.	Dur.
A. Direct marriage		**0.923**			**0.820**			**0.605**			**0.510**			**0.348**	
nu→1m	994		6.67	1372		6.99	1401		8.76	931		9.70	366		9.19
B. Marriage preceded by 1st-ohhabitation		**0.018**			**0.100**			**0.170**			**0.243**			**0.212**	
nu→1c→1m	18		13.76	157		11.78	351		10.79	416		10.89	193		10.14
nu→1c	36	0.036	12.46	238	0.147	9.12	617	0.291	8.35	735	0.400	7.88	627	0.474	7.18
1c→1m	18	0.504	1.30	157	0.685	2.66	351	0.584	2.44	416	0.608	3.01	193	0.447	2.96
C. Marriage followed by 1st-dehabitation								**0.019**			**0.012**			**0.026**	
nu→1c→1dc→1m							32		17.40	16		15.68	11		12.97
1c→1dc	11	0.368	10.36	52	0.247	7.14	199	0.346	4.54	207	0.315	3.96	216	0.501	2.98
1dc→1m							32	0.184	4.51	16	0.093	3.84	11	0.108	2.81
D. Marriage preceded by 2nd-cohabitation					**0.012**			**0.045**			**0.078**			**0.120**	
nu→1c→1dc→2c→1m				15		23.96	68		22.30	79		22.83	29		15.18
1dc→2c				24	0.513	3.92	119	0.726	5.82	135	0.906	5.27	77	0.689	2.74
2c→1m				15	0.645	3.78	68	0.622	3.59	79	0.681	2.71	29	0.733	2.28
E. Marriage followed by 2nd-dehabitation								**0.021**			**0.033**				
nu→1c→1dc→2c→2dc→1m							10		37.18	11		30.07			
2c→2dc							32	0.378	8.90	33	0.293	3.61			
2dc→1m							10	0.762	9.57	11	1.000	9.35			
Total Probability of first union		0.941			0.920			0.896			0.910			0.822	
Total Probability of trajectoies to first marriage		**0.941**			**0.932**			**0.860**			**0.798**			**0.706**	
Proportion of non-direct routes to marriage		0.019			0.120			0.297			0.361			0.507	
Proportion of direct route to marriage		0.981			0.880			0.704			0.639			0.493	
Total %		100			100			100			100			100	

Notes: symbols → indicates transitions; un=never-in-union; 1c=1st cohabitation; 1dc=1st de-habitation; 2c=2nd cohabitation; 2dc= 2nd de-habitation; 1m=1st marriage.
N=number of cases; Prob.= probability of transitions; Dur.=mean years of stay in the stable before transitions.
The probability is not calculated if the number of cases at the risk of an event transition is less than 10.
A marriage preceded by pre-marital cohabitation is seen as one union since the partner remains the same.

Table 2.2B. Probabilities and mean duration of trajectories to first marriage by birth cohort, Quebec,Women

Quebec Age in 2006	**1936-45** 61-70			**1946-55** 51-60			**1956-65** 41-50			**1966-75** 31-40			**1976-85** 21-30		
	N	Prob.	Dur.	N	Prob.	Dur.	N	Prob.	Dur.	N	Prob.	Dur.	N	Prob.	Dur.
A. Direct marriage		**0.904**			**0.662**			**0.387**			**0.217**			**0.144**	
nu→1m	266		7.01	291		6.88	195		7.71	87		9.75	30		10.12
B. Marriage preceded by 1st-cohhabitation		**0.015**			**0.165**			**0.265**			**0.213**			**0.157**	
nu→1c→1m	5		14.19	70		12.23	127		12.22	76		11.48	35		9.41
nu→1c	12	0.041	12.55	125	0.290	9.56	293	0.580	7.84	286	0.703	6.90	239	0.746	6.51
1c→1m	5	0.367	1.64	70	0.568	2.67	127	0.457	4.38	76	0.304	4.58	35	0.210	2.90
C. Direct marriage followed by 1st-dehabitation															
nu→1c→1dc→1m															
1c→1dc				21	0.637	3.51	104	0.380	6.23	110	0.424	3.97	75	0.471	3.29
1dc→1m				8	0.450	5.66	7	0.121	12.30						
D. Marriage preceded by 2nd-cohabitation								**0.043**			**0.104**				
nu→1c→1dc→2c→1m							17		21.06	28		18.58			
1dc→2c							75	0.800	3.80	81	0.688	2.71			
2c→1m							17	0.245	3.19	28	0.509	5.00			
E. Marriage followed by 2nd-dehabitation															
nu→1c→1dc→2c→2dc→1m															
2c→2dc															
2dc→1m															
Total Probability of first union		0.945			0.290			0.967			0.920			0.890	
Total Probability of trajectoies to first marriage		**0.9185**			**0.827**			**0.695**			**0.534**			**0.301**	
Proportion of non-direct routes to marriage		0.016			0.200			0.443			0.594			0.522	
Proportion of direct route to marriage		0.984			0.800			0.557			0.406			0.478	
Total %		100			100			100			100			100	

Notes: symbols → indicates transitions; un=never-in-union; 1c=1st cohabitation; 1dc=1st de-habitation; 2c=2nd cohabitation; 2dc= 2nd de-habitation; 1m=1st marriage.
N=number of cases; Prob.= probability of transitions; Dur.=mean years of stay in the stable before transitions.
The probability is not calculated if the number of cases at the risk of an event transition is less than 10.
A marriage preceded by pre-marital cohabitation is seen as one union since the partner remains the same.

Figure 2.3 A summary of trajectories to first marriage: probabilities of first union, total combined probabilities of trajectories, and proportions of non-direct trajectories, by cohort, region, women

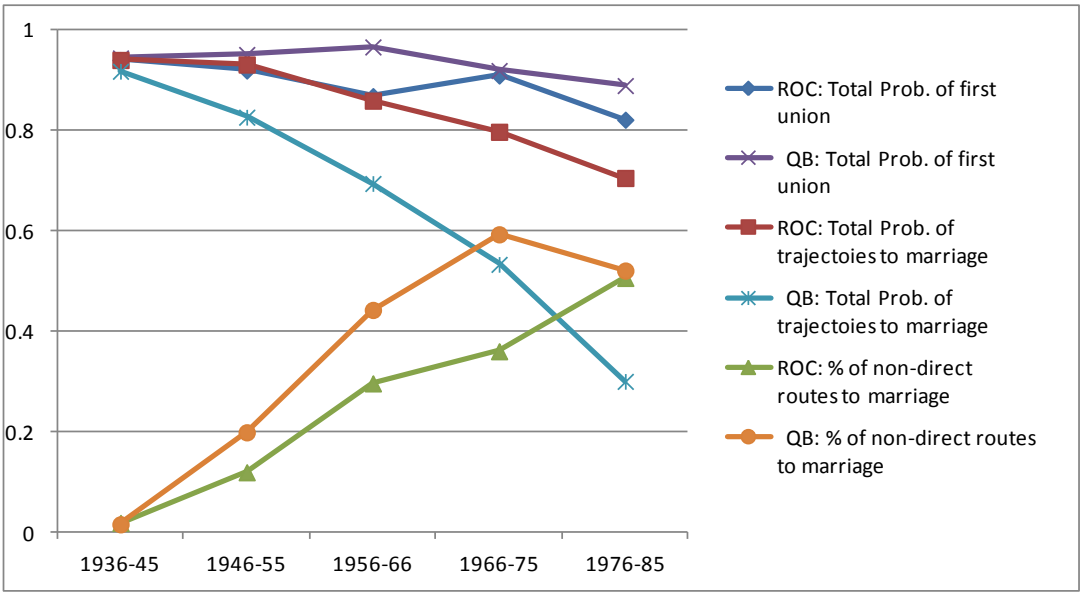
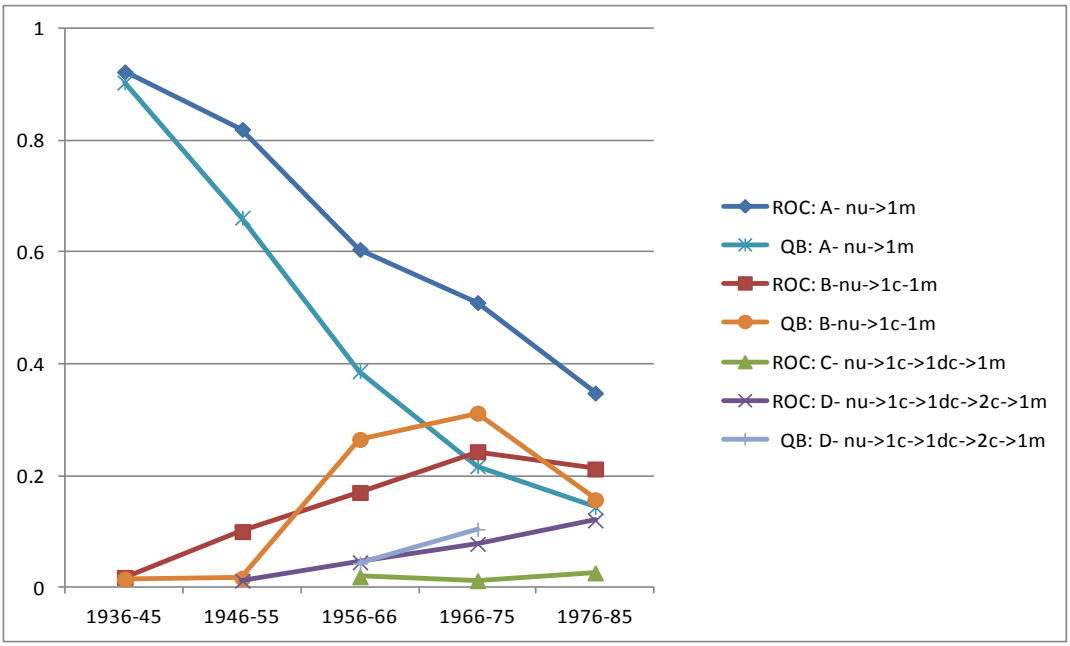


Figure 2.4 Probabilities of five prevalent trajectories to first marriage, by cohort, region, women



The probabilities of non-direct trajectories to marriage have increased over cohorts, as cohabitation has become the modal way of first union entry (Statistics Canada 2002). Nonetheless, among those who have a first marriage, the non-direct pathways have not dominated the trajectories to first marriage, with probabilities of less than 0.50, even among the younger birth cohorts (1966-85).

Figure 2.4 summarizes the probabilities of the prevalent trajectories to first marriage by birth cohort and region in Table 2.2A and 2.2B. The most apparent change in trajectories to first marriage is the steep decline in the probabilities of direct marriage route (path A), especially in Quebec. It starts as a normative and dominant path in the 1936-45 birth cohort, with the probability of nearly 0.90 in both regions, and declines to merely 0.15 and 0.35 for the youngest cohort in Quebec and elsewhere in Canada, respectively.

However, other trajectories to first marriage mostly increase. The probability of trajectory B, marriage preceded by first cohabitation (*nu→1c→1m*), rises steadily and peaks among the 1966-75 birth cohort (0.26 for Quebec and 0.24 for elsewhere in Canada), then drops among the youngest cohort, which is partially due to the censoring effect. The third path (C), marriage following the first dehabitation (*nu→1c→1dc→1m),* is not common amongst Canadian women, with the probability of less than 2.2% in the rest of Canada, and also very rare among Quebec women. This is also the case for the path E, direct marriage after the second dehabitation (*nu→1c→1dc→2c →2dc→1m).* The fourth path (D), marriage preceded by the second cohabitation (*nu→1c→1dc→2c→1m*), exhibits a steady increase across cohorts in the rest of Canada and an increase among Quebec women born between 1946 and 1975. For the women living in the rest of Canada, the probability of path E (*nu→1c→1dc→2c→2dc→1m)* increases from about 1.2% among the 1946-55 birth cohort to 12% among the 1976-85 cohort. In other words, the odds increase ten times after 30 years.

Figure 2.4 clearly shows that the trajectories to first marriage in Canada have been destandarized and differentiated. However, the magnitudes of this process differ substantially by region. To some extent, the rest of Canada exhibits a greater differentiation than Quebec, because cohabitation has been more institutionalized in Quebec than in the rest of Canada, leading to a dominant status of cohabitation in Quebec

(Le Bourdais & Marcil-Gratton 1996; Le Bourdais 2004). Despite the increase in other trajectories, the direct marital trajectory (*nu→1m)* is still the most common among women in 1936-85 birth cohorts from the rest of Canada. This prevailing pattern of direct marriage, especially among the youngest cohort of 1976-85 is probably largely due to the censuring (i.e., more complex trajectories to first marriage would not occur as quickly as direct marriages).

2.4.2.2 Probabilities of Transitions to First Marriage

The conditional probabilities of transitions to first marriage by birth cohort and region are also shown in Table 2.2A and Table 2.2B. For instance, the transition to the first cohabitation (*nu→1c)* increases across cohorts: from less than 5% among the oldest cohort to nearly 50% and 75% among the youngest cohorts in the rest of Canada and Quebec, respectively.

A summary of conditional probabilities across 1946-1985 birth cohorts is provided by Figure 2.5. The omission of the 1936-45 birth cohort is due to the monopoly of direct marital trajectory among women from this birth cohort. Referring to the probability of trajectories in the previous section, Figure 2.5 demonstrates the probability of subsequent transition to first marriage by birth cohort and region. The top panel of Figure 2.5 shows the five transitions and the rest displays the regional comparison pertaining to each transition. Although the transitions exhibit similar trends across cohorts in both regions, the extent of change is greater for Quebec than the rest of Canada. The steeper slopes of union transitions across cohorts in Quebec clearly indicate the more dramatic changes in Quebec, with the exception of ending first cohabitation by separation.

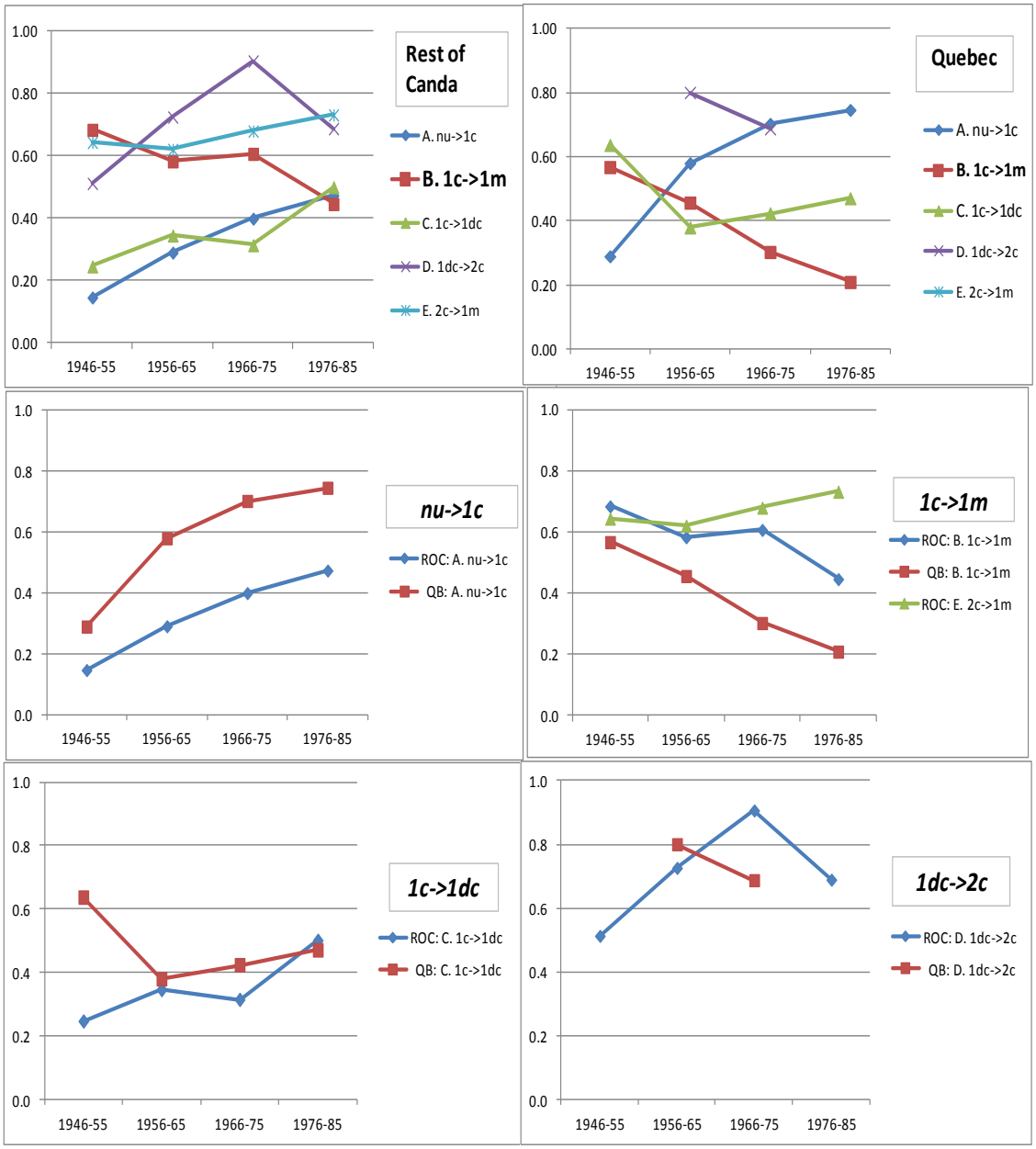
The middle and bottom of Figure 2.5 further reveal the stronger magnitudes in transitions in Quebec than the rest of Canada. Firstly, turning to the transition of *never-in-union→1st-cohabitation (nu→1c*), *w*omen in Quebec are nearly twice as likely as their counterparts in the rest of Canada to make this transition. The sharp increase of this transition over time has been argued to largely offset the decline in the rate of first marriage since the 1970s (e.g., Burch & Madan 1986). In addition, the transition out of first cohabiting union shows interesting regional patterns over time. The probability of

ending by marriage *(1st-cohabitation→1st-marriage (1c→1m))* falls dramatically across cohorts among Quebec women, changing from nearly 0.60 to 0.20. However, this monotonic trend is not the case for the rest of Canada. The probability declines slightly, then remains fairly stable, and drops sharply among the youngest cohort in the rest of Canada. Overall, the probability mostly remains above 0.60 among the 1946-75 birth cohorts in the rest of Canada. Even among the youngest cohort, women in the rest of Canada are twice as likely as their counterparts in Quebec to take the *1c→1m* transition.

Also, the probability of transforming the second cohabitation to first marriage *(2c→1m)* among women in the rest of Canada remains fairly high (0.60), with slight increases across cohorts. This is strong evidence for supporting the belief that cohabitation mainly functions as "prelude of marriage" in the rest of Canada. More importantly, results also reveal that the rapid decline in the rate of transforming cohabitation to marriage at the national level over the past three decades is mainly driven by the trend in Quebec. This finding reinforces the conclusion of Le Bourdais and Marcil-Gratton (1996) that demographic changes are much more dramatic in Quebec than in the rest of Canada.

Alternatively, first dehabitation (*1c→1dc)* also differs by regions. Cohabitation in Quebec appears to be more stable than the rest of Canada. This reflects the institutionalization of cohabitation in Quebec over time (e.g., Le Bourdais et al. 2004). The slightly increased dehabitation *(1c→1dc)* probability in the youngest cohort supports the idea that cohabitation is becoming more heterogeneous (e.g., involvement of less committed individuals) as it diffuses (e.g., Bumpass & Lu 2000; Liefbroer & Dourlejin 2006; Schoen et al. 2007; Wu & Balakrishnan 1995). Lastly, the probability of entering the second cohabiting union *(1dc→2c)* is relatively high in Canada, which corresponds with the higher repartnering rate through cohabitation (Blanc 1987; Wu & Schimmele 2005). Also, the probability of transforming the second cohabitation to marriage *(2c→1m)* is fairly high (e.g., more than 0.60) among women in the rest of Canada, though this is not the case for Quebec.

Figure 2.5 Conditional probabilities of transitions to first marriage, by cohort, region, women



Notes:
Symbols -> indicate a transition;
nu=never-in-union; 1c=1st-cohabitation; 1dc=1st-de-habitation; 2c=2nd-cohabitation; 1m=1st-marriage;
ROC= Rest of Canada; QB = Quebec.
Transitions experienced less than 10 cases are not examined in this study

2.4.2.3 Durations of Trajectories and Transitions to First Marriage

Table 2.2A and Table 2.2B further show the durations (mean years) of trajectories and transitions to first marriage. In addition to shape and quantum, sequence analysis also presents the timing (duration) indices of trajectories, suggesting turbulence in transitions and trajectories. In general, the more transitions in a sequence, the longer time needed for completing the trajectory. For instance, in the 1966-75 birth cohort from Canada outside of Quebec, the average years of completing the first marriage following the first cohabitation(*nu→1c→ 1m)* trajectory is nearly 11 years; but the average rises to 23 if the trajectory is marriage following a second cohabitation (*nu→1c→ 1dc→2c→1m).* Accordingly, the average age of first marriage is 26 (11+15) and 38 (23+15), respectively.

In examining the timing of various trajectories to first marriage across cohorts, an interesting pattern emerges: though the average age at first direct marriage increases across cohorts, the age of following other trajectories actually decreases over cohorts. For instance, the average age of marriage preceded by premarital cohabitation is nearly 27 (11.78+15) among the 1946-55 birth cohort, but the age drops to about 25 among the 1976-85 cohort. Although the two years does not appear large, the decomposition reveals more substantial changes. It takes some three to five years more for the older cohort of women to enter into cohabitation relative to the younger ones, and the transition *(1c→1m)* is also faster among the older cohorts. Therefore, women from the younger cohorts embarked on their first cohabiting union much earlier than their older counterparts, and they are likely to delay their marriages. This is consistent with Billari and Liefbroer's (2010) reversibility hypothesis, which posits that the events characterized by lower reversibility (e.g., marriage and birth) will be further postponed.

The timing of completing a trajectory to first marriage is longer among women in Quebec than elsewhere in Canada, given the substantially longer period of cohabitation in Quebec. As expected, there is a noticeable regional difference in terms of the duration of dissolving first cohabitation *(1c→1dc)*: the duration remains relatively stable across cohorts amongst Quebec women but declines steadily in the rest of Canada. Nonetheless, similar to results reported by Haskey in Britain (1999), the duration of non-marital

cohabitation is shorter than pre-marital cohabitation among women in the rest of Canada, and both are typically much shorter than ten years.

2.4.3 Trajectories to the Second Union Formation

Following the same logic and procedures as to the trajectories to first marriage, this section presents the results – probability, timing, and quantum – of the trajectories to the second union formation.

2.4.3.1 Probabilities of Trajectories to Second Union

Table 2.3A and Table 2.3B present the common trajectories and transitions to the second union formation by birth cohort and region. For descriptive purposes, the five trajectories to the second union were labeled into three major categories – traditional, modern, and post-modern. The labeling rests on the types of the first and second union. The traditional trajectory refers to the pathway consisting of merely two marital unions without cohabiting relationships. In contrast, the post-modern includes only two non-marital cohabiting unions. The modern trajectory encompasses trajectories to the second union involving marital and cohabiting unions simultaneously. Thus, traditional and post-modern trajectories include pure marital transitions or pure cohabiting transitions without marriage, while the modern mode is mixed.

The summary statistics on trajectories (see the bottom panel of Table 2.3A and Table 2.3B) show that the probability of repartnering increases across the three birth cohorts, with a higher level in Quebec than the rest of Canada. For instance, the total probability of forming the second union is 0.28 and 0.26 for the 1946-55 birth cohort in the rest of Canada and Quebec. This increases to 0.34 and 0.41 in the 1966-75 birth cohort. The modern trajectories in the rest of Canada remain fairly stable over cohorts, but the traditional mode decreases and the post-modern mode increases. In contrast, the probability of traditional and modern trajectories decreases in Quebec, while post-modern trajectory undergoes a substantial increase, with the probability increasing from 0.06 to 0.29.

A summary of probabilities of trajectories is provided in Figure 2.6, showing the probabilities of trajectories to the second union by birth cohort and region. Clearly, the more compact distribution of sequence probabilities in the Rest of Canada than that of Quebec indicates more diverse and complex pathways in the former relative to the latter. Alternatively, the steeper slopes of trajectories in Quebec than those in the rest of Canada suggest more dramatic changes occurred in Quebec (Le Bourdais & Marcil-Gratton 1996). Especially, the magnitudes of changes in traditional and post-modern pathways are much larger in Quebec than in the rest of Canada. The modern pathways (G) show an interesting regional pattern: it was at the similar level (0.18) for the oldest cohort among both regions, but it drops sharply in Quebec, reaching 0.12 among Quebec women born in 1966-75. Interestingly, path B (cohabitation after the disruption of first direct marriage) and path C (cohabitation after the disruption of first marriage preceded by premarital cohabitation) exhibit similar distributions in the two regions. However, the path D and E, are not common among Canadian women.

Table 2.3A Probabilities and mean duration of trajectories to the second union formation, by birth cohort, Rest of Canada, Women

Rest of Canada	**1946-55**			**1956-65**			**1966-75**		
Age in 2006	**51-60**			**41-50**			**31-40**		
	N	Prob.	Dur.	N	Prob.	Dur.	N	Prob.	Dur.
I. Traditional trajectory		**0.089**			**0.092**			**0.056**	
A. **nu->1m-> 1dm>2m**	97		27.09	93		28.76	31		23.7
nu->1m-> 1dm	365	0.279	20.65	326	0.196	19.41	137	0.118	16.86
nu->1m	1217	0.807	6.98	1258	0.65	8.73	841	0.508	9.7
II. Modern trajecotry		**0.178**			**0.178**			**0.177**	
B. **nu->1m->1dm->1c**	130	0.12	26.74	105	0.081	24.47	29	0.036	20.17
C. **nu->1c->1m->1dm ->2c**	47	0.044	27.69	80	0.070	26.34	51	0.08	21.91
D. **nu->1c->1m->1dm-> 2m**	9	0.009	28.01	9	0.009	29.1	15	0.051	22.35
nu->1c->1m->1dm	81	0.063	21.31	131	0.094	22.17	84	0.098	19.2
nu->1c	215	0.145	9.04	556	0.289	8.32	659	0.395	7.89
E. **nu->1c->1dc->2m**	8	0.005	21.92	111	0.018	17.74	14	0.01	20.62
III. Post-modern trajectory		**0.014**			**0.074**			**0.109**	
F. **nu->1c ->1dc ->2c**	22		20.18	182		18.55	120		16.79
nu->1c ->1dc	47	0.027	16.24	27	0.101	13		0.126	
A summary of trajectories									
Total Prob.: traditional		0.089			0.092			0.056	
Total Prob.: modern		0.178			0.178			0.177	
Total Prob.: post-modern		0.014			0.074			0.109	
Total Prob.: Trajectories to the 2nd union		**0.281**			**0.345**			**0.342**	
%: Traditional Prob./ Total Prob.		31.7			26.7			16.4	
%: Modern Prob./ Total Prob.		63.3			51.6			51.8	
%: Post-modern Prob./ Total Prob.		5.0			21.4			31.9	

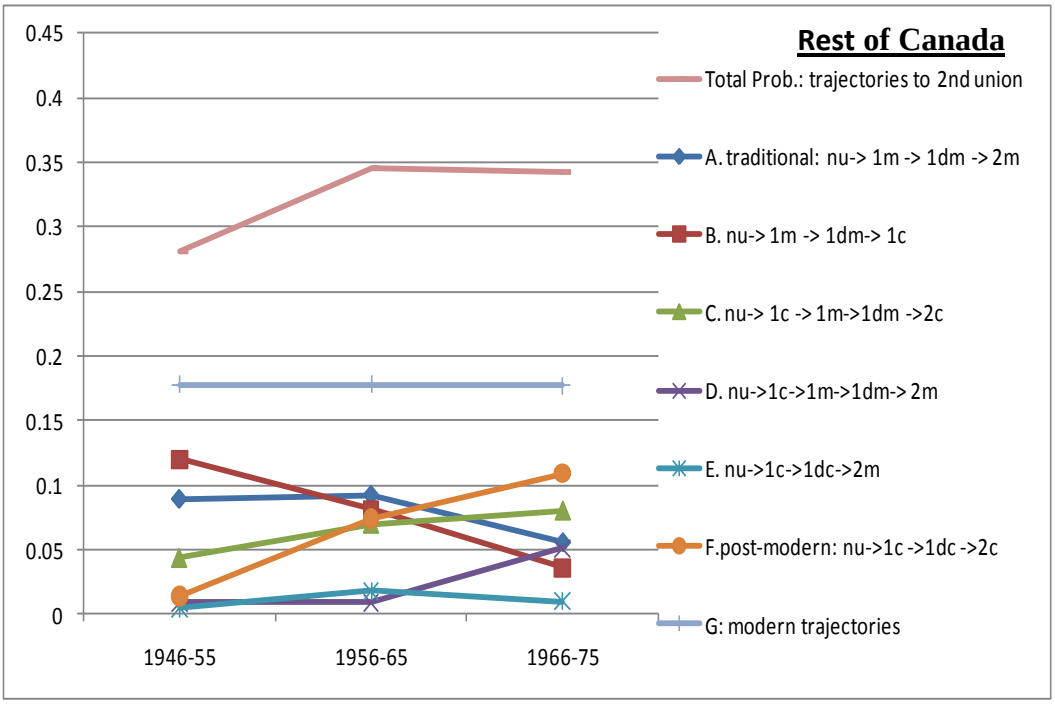
Notes: symbols-> indicates transitions;
un=never-in-union; 1c=1st cohabitation; 1dc=1st de-habitation; 2c=2nd cohabitation;
1m=1st marriage; 1md=1st de-marriage(dissolution); 2m=2nd marriage;
N = number of cases; Prob. = probability of transitions; Dur. = mean years of stay in the stable before transitions.
The probability is not calculated if the number of cases at the risk of an event transition is less than 10.
A marriage preceded by pre-marital cohabitation is seen as one union since the partner remains the same.

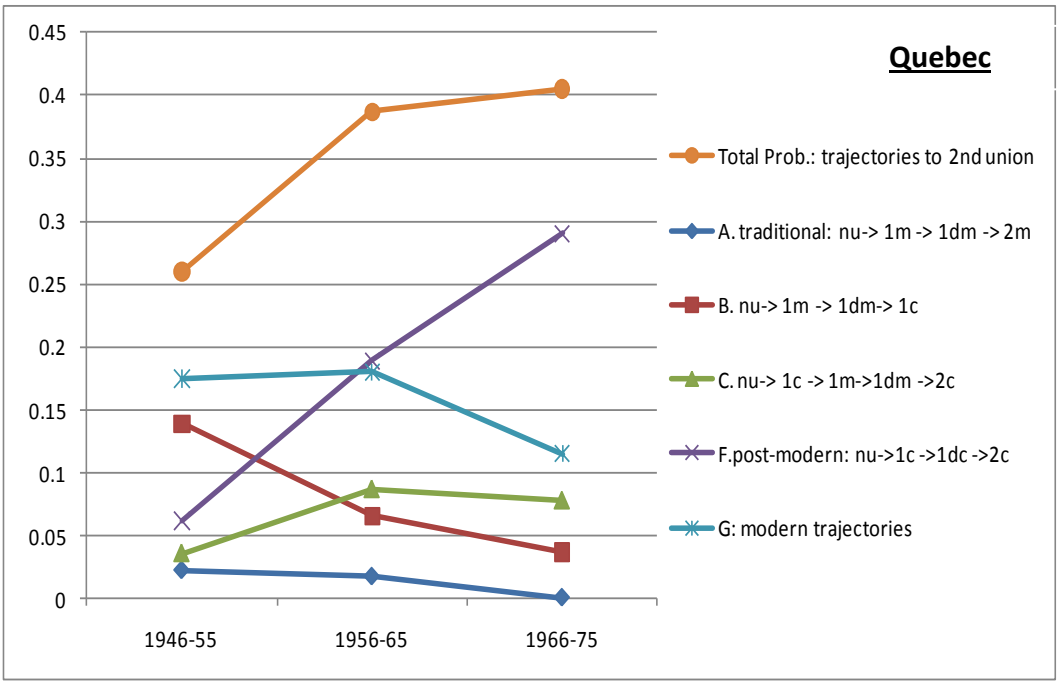
Table 2.3B Probabilities and mean duration of trajectories to the second union foramtion, by birth cohort, Quebec, Women

Quebec	**1946-55**			**1956-65**			**1966-75**		
Age im 2006	**51-60**			**41-50**			**31-40**		
	N	Prob.	Dur.	N	Prob.	Dur.	N	Prob.	Dur.
I. Traditional trajectory		**0.023**			**0.018**				
A. **nu->1m-> 1dm>2m**	8		30.66	8		23.21	--	--	--
nu->1m-> 1dm	95	0.215	23.23	68	0.13	19.58	19	0.005	20.77
nu->1m	341	0.657	6.86	226	0.38	7.73	104	0.217	9.770
II. Modern trajecotry		**0.175**			**0.18**			**0.115**	
B. **nu->1m->1dm->1c**	45	0.139	32.1	28	0.066	23.77	8	0.037	22.89
C. **nu->1c->1m->1dm ->2c**	16	0.036	36.39	34	0.087	25.7	13	0.078	23.79
D. **nu->1c->1m->1dm-> 2m**							--	--	--
nu->1c->1m->1dm	95	0.053	28.76	53	0.114	22.05	18	0.081	20.29
nu->1c	145	0.285	9.63	346	0.58	7.84	342	0.706	6.86
E. **nu->1c->1dc->2m**				8	0.027	26.56	--	--	--
III. Post-modern trajectory		**0.062**			**0.189**			**0.290**	
F. **nu->1c ->1dc ->2c**	28		19.22	95		17.76	104		14
nu->1c ->1dc	42	0.091	16.41	132	0.237	14.26	104	0.336	11.58
A summary of trajectories									
Total Prob.: traditional		0.023			0.018			--	
Total Prob.: modern		0.175			0.18			0.115	
Total Prob.: post-modern		0.062			0.189			0.29	
Total Prob.: trajectories to 2nd union		**0.26**			**0.387**			**0.405**	
%: Traditional Prob./ Total Prob.		8.9			4.7			--	
%: Modern Prob./ Total Prob.		67.3			46.5			28.4	
%: Post-modern Prob./ Total Prob.		23.9			48.8			71.6	

un=never-in-union; 1c=1st cohabitation; 1dc=1st de-habitation; 2c=2nd cohabitation;
1m=1st marriage; 1md=1st de-marriage(dissolution); 2m=2nd marriage;
N = number of cases; Prob. = probability of transitions; Dur. = mean years of stay in the stable before transitions.
The probability is not calculated if the number of cases at the risk of an event transition is less than 10.
A marriage preceded by pre-marital cohabitation is seen as one union since the partner remains the same.

Figure 2.6 Trajectories: Probabilities of trajectories to the second union formation, by birth cohort, region, women





Notes: nu=never-in-union; 1m=1st- marriage; 1dm= 1st- demarriage; 2m=2nd-marriage; 1c=1st-cohabitation; 1dc=1st-de-habitation; 2c=2nd-cohabitation

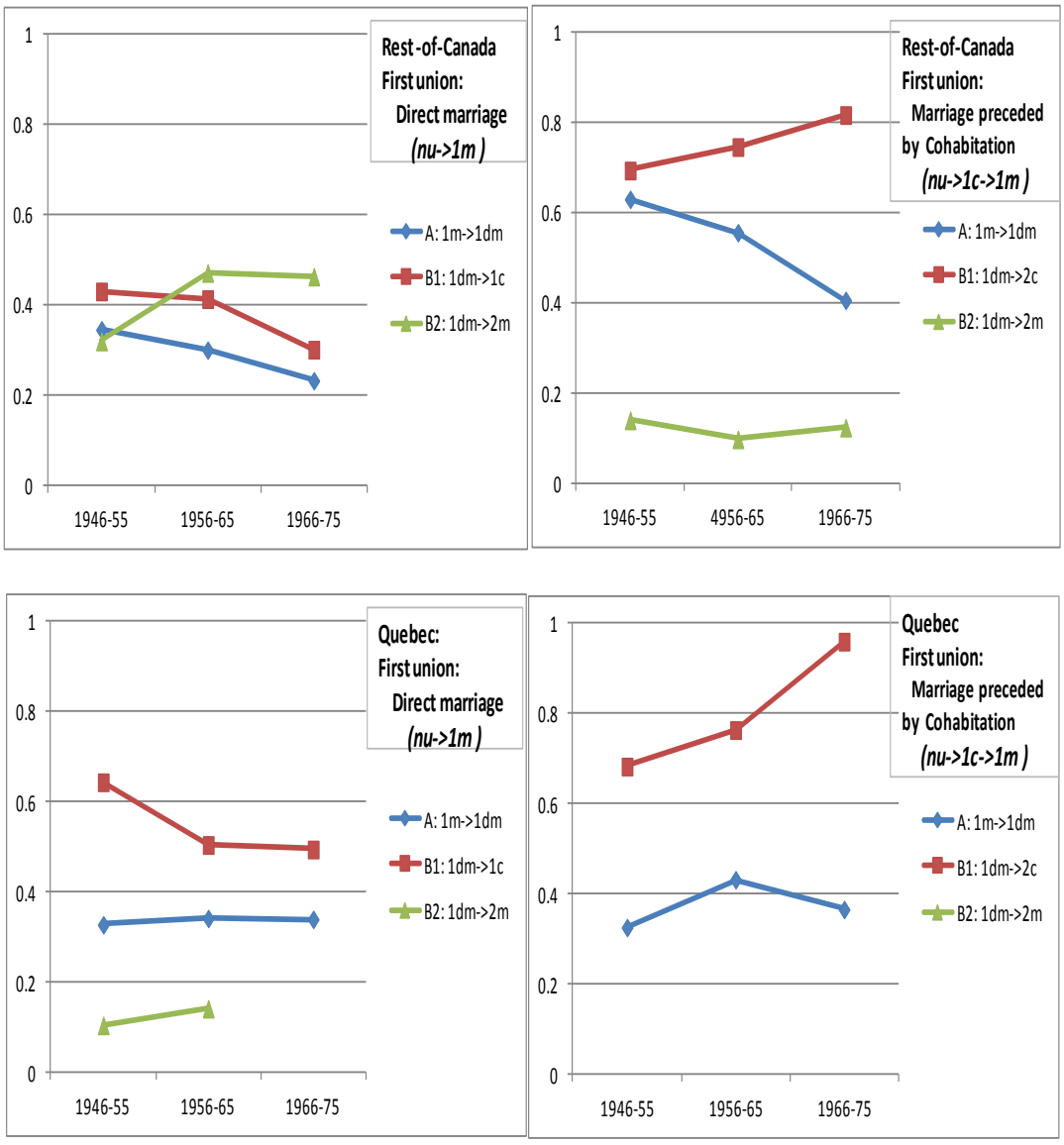
2.4.3.2 Probabilities of Transitions to Second Union

The summary of the conditional probabilities of transitions to the second union is presented in Figure 2.7. Since the conditional probability of transition to first marriage was discussed in the previous section, Figure 2.7 provides the subsequent transitions following direct marriage (left panels) and marriage preceded by cohabitation (right panels). The larger magnitudes of changes exhibited in the right panels in comparison to the left confirms the "cohabitation effect" – higher marital instability. This reflects the interdependency of life events, where the previous transitions influence the subsequent transitions (e.g., Leridon 1990; Wu & Balakrishnan 1995; Mills 2004). The declines in the probability of dissolving marriage *(1^{st}-marriage $\rightarrow 1^{st}$-demarrage)* and subsequently entering cohabitation *(1^{st}-demarriage $\rightarrow 1^{st}$-cohabition)* over cohorts, are mainly due to the fact that younger cohorts have had less time to experience the higher order of conjugal unions (i.e., the censoring effect).

The top panel of Figure 2.7 shows that the odds of subsequent transitions are nearly twice as likely for women in the rest of Canada whose first marriage was preceded by cohabitation, when compared to their counterparts with direct first marriage. For example, the probability of dissolving a first marriage that was preceded by cohabitation is nearly 0.60 among 1946-55 birth cohort and 0.40 among 1966-75 birth cohort. The corresponding figures for direct marriage are approximately 0.30 and 0.20, respectively.

In addition, a regional difference pertaining to cohabitation effect stands out. The probabilities of divorce for marriage preceded by cohabitation *(never-in-union $\rightarrow 1^{st}$-cohabitation $\rightarrow 1^{st}$-marriage $\rightarrow 1^{st}$-demarriage)* among the 1946-55 birth cohort are nearly 0.60 in the rest of Canada, while about 0.30 in Quebec. This echoes the faster institutionalization of cohabitation in Quebec than the rest of Canada (e.g., Le Bourdais & Marcil-Gratton 1996; Le Bourdais et al. 2004; Liefbroer & Dourlejin 2006; Pollard & Wu 1998).

Figure 2.7 Transitions: Conditional probabilities of subsequent transitions to the second union formation, by birth cohort, region, Women



Notes: Symbols -> indicate a transition;
nu=never-in-union; 1m=1st- marriage; 1dm= 1st-demarriage; 2m=2nd-marriage; 1c=1st-cohabitation; 1dc=1st-de-habitation; 2c=2nd-cohabitation

2.4.3.3 Durations of Trajectories and Transitions to Second Union

Table 2.3A and Table 2.3B also provide the timing of trajectories to the second union. On the whole, the average years of completing the pathways to second union decrease across cohorts in both regions, suggesting a faster pacing of transitions among the younger cohorts. For example, in the rest of Canada, the average years for completing the trajectory of *never-in-union →1st-marriage →1st-demarriage →1st-cohabiation (nu →1m →1dma →1c*) fall from 26.7 for the 1946-55 birth cohort to 20.2 for 1966-75 birth cohort. The corresponding figures for women in Quebec are 32.1 and 22.9, respectively. The more turbulent and complex partnership histories over cohorts are consistent with Mills' (2004) findings.

Similar to the probability of transitions, the timing of trajectories varies greatly by types of union involved. This confirms previous research, which shows that the timing of subsequent transitions differs considerably by status of previous union (e.g., Wu & Schimmele 2005). For example, the average age of completing the pathway of *1st-marriage →1st-demarriage →2nd-marriage (nu →1m →1dm →2m)* is about 44 (29.1+15) among women in 1956-65 birth cohort in the rest of Canada, whereas it is reduced to 40 (24.47+15) if the second union is cohabitation instead of marriage. The findings further substantiate Billari and Liefbroer's (2010) reversibility hypothesis, suggesting that the durations of traditional, modern, and post-modern trajectories vary significantly by their level of reversibility. Predictably, the post-modern pathway exhibits the shortest durations.

2.5 Conclusion and Discussion

Guided by the life course perspective and the principle of "establishing the phenomenon" of complex conjugal partnership histories, this study explored the transformation of partnerships, with respect to the union transitions and trajectories to first marriage and the second union in Canada among women born in 1936 through 1985. Drawing on data from General Social Survey on Family Transitions, the sequence analysis portrayed the trajectories of partnerships across cohorts and regions. Results on trajectories and transitions clearly demonstrate that conjugal partnership trajectories in Canada are becoming more complex, destandarized, and turbulent.

The findings provide several straightforward conclusions. Firstly, despite the increase in non-direct trajectories to first marriage over cohorts, the pathway of marriage preceded by premarital cohabitation has never achieved dominant or normative status among Canadian women born in 1936-85. It occurs due to the retreat from marriage among women in Quebec across cohorts and the higher popularity of direct marriage relative to other trajectories among women in the rest of Canada. Notwithstanding the fact that cohabitation has become the modal way of first partnership, this does not imply that marriage follows the first cohabitation. This is consistent with research on the process of cohabitation entry, suggesting that cohabitation entry may not be framed within the marital context (e.g, Manning & Smock 2005; Seltzer 2004; Stanley et al. 2006). Clearly, estimates of high percentages of premarital cohabitation from cross-sectional data mask the order of cohabitation. For women in the rest of Canada, cohabitation is more likely to be the "prerequisite" to first marriage across cohorts (Le Bourdais & Marcil-Gratton 1996; Statistics Canada 2002; Wu & Schimmele 2005). This is supported by the evidence of uncommon trajectories to first marriage following the dissolution of the first or the second cohabitation.

On the other hand, the overall probability of trajectories to first marriage also reinforces the institutionalization of cohabitation over time (Dumas & Bélanger 1997; Manning 1996; Mills 2004). Moreover, findings on trajectories to first marriage especially echo prior research on the aspects of stability and change in partnerships histories (e.g. Coontz 2004; Smock 2004; Mills 2004). For instance, marriage is going to stay in the rest of Canada for the near future.

Secondly, the findings on trajectories to the second union illustrate a few noteworthy results. First of all, as expected, the probability of forming the second union increases over cohorts. The increase is mainly boosted by the steep growth in the probability of the post-modern trajectory (i.e. pathways involving only two non-marital cohabiting unions) over cohorts, particularly in Quebec. Meanwhile, the probability of the traditional trajectory (i.e., path involving two-marital unions) decreases over time. The modern trajectories (i.e., pathways involving cohabitating and marital union) remain fairly stable among women from Canada outside of Quebec, but this is not the case for women in Quebec.

Next, the prevalence of the post-modern trajectory, especially as the most popular pathway amongst the youngest cohort in both regions, supports the growing phenomenon of serial cohabitation in Canada and the United States (e.g., Elzinga & Liefbroer 2007; Lichter et al. 2010; Schoen et al. 2007; Statistics Canada 2002). This concurs with prior studies (e.g., Amato et al. 2008; Schoen et al. 2007), suggesting that it is imperative to include non-marital cohabitation along with marriage as well as premarital cohabitation in understanding transformations of family life and conjugal partnerships. This necessity is further underscored by the ongoing decoupling of marriage and birth (e.g., Bumpass & Lu 2000; Le Bourdais et al. 2004; Lichter et al. 2010). In addition, it is also noteworthy that the timing of completing certain partnership trajectories across cohorts actually decreases, with the notable exception of direct first marriage. Consistent with Billari & Liefbroer's (2010) reversibility hypothesis on transition duration, the analyses show that across cohorts, marriage is further postponed given its lower reversibility compared to cohabitation.

Thirdly, regional analyses in terms of trajectories reveal profound differences in partnership transitions and trajectories in Quebec and Canada outside of Quebec, as suggested in the literature (e.g., Le Bourdais & Marcil-Gratton 1996; Kerr et al. 2006). The findings of steeper slopes of transitions and trajectories among Quebec women definitely indicate more turbulent partnership transformations than in the rest of Canada. This is consistent with the findings of Le Bourdais and Marcil-Gratton (1996), who demonstrated that the faster changes with respect to demographic indexes in Canada than in the United States after the 1960s are mainly driven by the more dramatic changes in Quebec than in the rest of Canada.

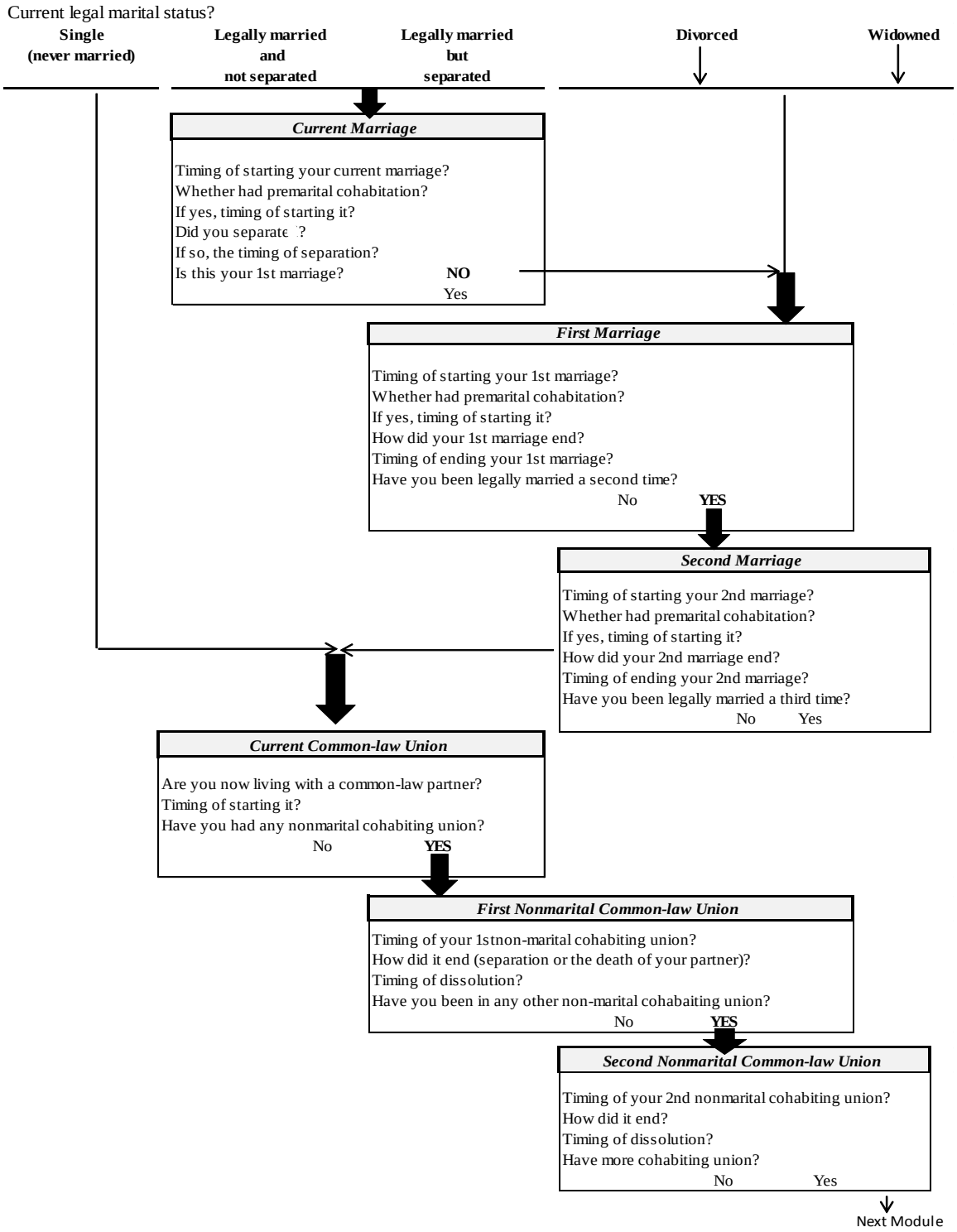
The regional difference in cohabiting union transitions is a substantively important finding. As indicated by the literature, the magnitudes of changes in cohabitation over cohorts mirrors the process of institutionalization of cohabitation in a specific culture, which in turn affects the conjugal union transitions as a social system (e.g., Kiernan 2002; Le Bourdais et al. 2004). The notable regional differences in partnership trajectories and transitions underpin the idea of the "theory of structuration" (Giddens 1984; Mills 2004; Sewell 1992). Thus, structural changes exhibit momentous influence on the conjugal life, which has been emphasized by prior research on life course studies (e.g., Elzinga & Liefbroer 2007; Liefbroer & Dourlejin 2006; Laptane 2006; Popenoe 1993; Mills 2004).

Fourthly, although the extent of changes in Quebec is more turbulent than the rest of Canada, the larger number of competing conjugal trajectories among women in the rest of Canada suggests that partnership trajectories are more diverse and complex in the rest of Canada than Quebec. In contrast to the circumstances in the rest of Canada, cohabitation emerges as a customary or prevailing union type in Quebec, leading to the "normative" trajectories composed of cohabiting unions. Lastly, the findings on the total probability of trajectories further provide insights to the debate on marriage postponement or retreat (Goldstein & Kenney 2001; Smock 2004). The decline of trajectories to first marriage and the sharp decline of modern trajectories to the second union in Quebec clearly support the view of cohabitation as an alternative to marriage (Le Bourdais et al. 20004). However, the relatively high probability of trajectories to first marriage and the stable modern trajectories to the second union involving first marriage across cohorts among women in the rest of Canada signify the strength of the marriage institution.

Consistent with prior research, conjugal partnership transformations in the rest of Canada resemble that of the United States, where the majority of adults would "give marriage a try" (Le Bourdais & Marcil-Gratton 1996; Goldstein & Kenney 2001). However, marital dissolutions are more common in the United States than in Canada.

In summary, results on conjugal partnerships transitions and trajectories suggest that conjugal partnership trajectories in Canada are becoming more complex, destandarized, and turbulent, with profound regional patterns. Sequence analysis has limitations in terms of displaying how other variables affect the partnership histories and transitions, such as socioeconomic prospects (Oppenheimer 1997), social class (Rajulton et al. 2008), fertility (Brien et al. 1999), and race/ethnicity (Raley & Bumpass 2003). For instance, the conjugal transitions of cohabitation and marriage differ substantially by ethnicity and nativity (Phillips & Sweeney 2005; Sassler 2010). Future research could explore how conjugal trajectories vary by other salient factors besides region. Although it would be important to examine how partnership trajectories vary by other factors, the analyses face methodological problems because the multistate method is not effective when controlling for several variables simultaneously (e.g. Billari 2001; Mills 2004; Ravanera et al. 2005:6; Rajulton et al. 2008). Nevertheless, using sequence analysis and life course theory, this study establishes the impact of social phenomena on the transformation of conjugal partnerships and clearly shows that conjugal trajectories are becoming more complex, destandarized, and turbulent in Canada across cohorts.

Appendix Figure 2.1 Partnership transitions and histories surveyed in the 20th cycle of General Social Survey (GSS 2006), Family Transitions



Notes:
Timing = In what month and year (e.g., In what month and year was your first marriage?)
How did the marriage end? The answers include separation and then divorce or annulment, separation and then death of spouse, death of spouse, divorce or annulment without separation, and others.
Whether had premarital cohabitation? = premarital cohabitation status (e.g., Did you and your spouse live common-law before entering into this marriage?)
Common-law partners refer to two people of the opposite sex or of the same sex who live together as a couple but who are not legally married to each other.
Common-law relationships are self-reported and could refer to unions of any length. (Statistics Canada. 2008. GSS Cycle 20: Family Transitions. Catalogue no. 12M0020G 90. Page.90).
A similar figure, see Haskey (1999: 24).

Appendix Table 2.2 Measurement Box, General Social Survey, 2006, Canada

Variables	Labels
Partnership histories	
TTLUNION	Total number of unions (marriage and common-law)
TTLMARRG	Number of marriages the respondent has ever had
NMMARWCL	Number of marriages not preceded by common-law union
NMCLFMAR	Number of common-law unions followed by a marriage
EVER_CL	Respondent ever been in a common-law relationship
EVER_LGM	Respondent ever legally married
NMSEDVLF	Number of separation/divorce that the respondent has had in his lifetime
Current marriage	
MARSTATL	Current legal marital status of the respondent
MA0_RANK	Rank of current marriage of respondent between all the possible unions he/she had
AGE_MA0C	Age of respondent at start of current marriage
AGLVAPCU	Age of respondent when started living apart from current marriage union
AGEATSEP	Age of respondent at time of separation from current marriage
MA0_Q150	You and your spouse lived common-law before entering into this marriage
AGECLMA0	Age of respondent at start of common-law before current marriage
MA0_Q220	This is your first marriage
First marriage	
MA1_RANK	Rank of first marriage of respondent between all the possible unions he/she had
AGE_MA1	Age of respondent at start of first marriage
AGECLMA1	Age of respondent at start of common-law before first marriage
AGESEMA1	Age of respondent at time of separation from first marriage
AGEDIMA1	Age of respondent at time of divorce from first marriage
AGEDTMA1	Age of respondent at death of spouse - first marriage
Second marriage	
MA2_RANK	Rank of second marriage of respondent between all the possible unions he/she had
AGE_MA2C	Age of respondent at start of second marriage
AGECLMA2	Age of respondent at start of common-law before second marriage
AGESEMA2	Age of respondent at time of separation from second marriage
AGEDIMA2	Age of respondent at time of divorce from second marriage
AGEDTMA2	Age of respondent at death of spouse - second marriage
Current Cohabitation	
PR_CL	Respondent is currently living with a common-law partner
AGE_CU0C	Age of respondent at start of current common-law
CU0_Q220	You have had a previous common-law relationship that was not followed by marriage
First non-marital cohabitation	
AGE_CU1	Age of respondent at start of first common-law
RAGSEPC1	Age of respondent at time of separation from first common-law
RAGDTHC1	Age of respondent at death of partner - first common-law
Second non-marital cohabitation	
AGE_CU2	Age of respondent at start of second common-law
RAGSEPC2	Age of respondent at time of separation from second common-law
RAGDTHC2	Age of respondent at death of partner - second common-law
Third non-marital cohabitation	
AGE_CU3	Age of respondent at start of third common-law
RAGSEPC3	Age of respondent at time of separation from third common-law
RAGDTHC3	Age of respondent at death of partner - third common-law

*Notes: GSS 2006, Family Transitions

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Chapter III

Trajectories to Second Union Formation: Do Socioeconomic Prospects Matter?

3.1 Introduction

The greater flexibility of conjugal relationships, characterized by the pronounced rise in cohabitation and divorce, appears to signal the downfall of the once upon a time permanency marriage (Lesthaeghe, 1995).These unprecedentedly dramatic changes in conjugal life have transformed conjugal partnerships in most Western societies, including Canada (e.g., Bélanger & Dumas, 1997; Burch & Madan 1986; Bumpuss et al. 1991; Kiernan 2000; Le Bourdais et al. 2000; 2004; Mills 2004; Statistics Canada 2002; Wu & Schimmele 2011). Conjugal life has become like riding a roller coaster, leading to repartnering as a regular life experience (e.g., Cherlin 1991, 2009; Lochhead & Glossop 2007; Statistics Canada 2008a).

The "partnering over the life course" echoes the so-called "pluralisation of partnerships" (e.g., Le Bourdais et al. 2000; Mills 2004:151; Sassler 2010; Statistics Canada 2002). Indeed, Cherlin (2011) coined the phrase of "marriage-go-round" to highlight the great turbulence in American intimate relationships – a coming and going of partners on an unseen scale. Not surprisingly, cohabitation has become the model way of initiating family life for the majority of young Canadians, and most first marriages are continuations of cohabiting relationships (e.g., Le Bourdais et al. 2000; Statistics Canada 2002). Recent trends in cohabitation, however, indicate that an increasing percentage of cohabitating unions have dissolved by separation instead of marriage, suggesting an uncoupling of cohabitation and marriage (Bumpass & Lu 2000; Lichter et al. 2006; Wu & Balakrishnan 1995). Indeed, serial cohabitation has increased significantly in the past two

decades (e.g., Lichter & Qian 2008; Lichter et al. 2010; Schoen et al. 2007). Moreover, it appears that conjugal unions, regardless of cohabitation, marriage, and remarriage, are becoming more fragile (e.g., Bumpass & Lu 2000; Bramlett & Mosher 2002; Cherlin 1978; Coleman et al. 2000; Hall & Zhao 1995; Statistics Canadian 2008a; Wu & Schimmele 2005:25).

Despite substantial research on union transitions, namely first partnership (e.g., Burch & Madan 1986; Niu 2008), marriage (e.g., Statistics Canada 2004), cohabitation (e.g., Le Bourdais et al. 2004), divorce (e.g., Balakrishnan et al.1987), and repartnering (Wu & Schimmele 2005), partnership trajectory is less researched (e.g., Poortman 2007). Although family-building behaviours (e.g., first union, first marriage, and first birth) have been typically included as milestones in the pathways to adulthood, this research has failed to examine conjugal partnership trajectories in a broader spectrum. In particular, what kinds of trajectories to the second union are occurring? What types of unions constitute the common trajectories? Are the trajectories more likely to encompass one marriage, two marriages or serial cohabitation? Do the trajectories differ by socioeconomic prospects? If so, does the influence of socioeconomic prospects vary by gender?

The understanding of partnership histories is vital not only because of the lack of knowledge on this common contemporary life experience, but due to the significance of partnership histories for the well-being of individuals, children, and families (e.g., Barrett 2004; Sassler 2010:560; Willams & Umberson 2004; Willitts et al. 2004). For instance, the benefits of marriage have been documented in the book "The Case for Marriage: Why married people are happier, healthier, and better off financially" (Waite & Gallagher 2000). By eliminating confounding factors (e.g., happier persons are more likely to get married), a series of longitudinal studies have confirmed the marriage premium effect (e.g., Rendall et al. 2011; Williams 2003). Indeed, more committed relationships have a stronger benefit to mental and physical health (e.g., Kamp Dush & Amato 2005; Willams & Umberson 2004). In addition, partnership trajectories have emerged as a new source or as a nascent type of social inequality in post-modern societies, given that social, economic, and cultural capital are associated with the formation and dissolution of

partnerships (e.g., Astone et al. 1999; Luscombe 2010; Goldstein & Kenney 2001; Rajulton et al. 2008; Wilcox 2011).

Drawing on data from the 2006 Canadian General Social Survey on Family Transitions, this study examines three questions in terms of trajectories to second union formation. First, who follows which trajectories to the second union formation? Second, are socioeconomic prospects associated with the odds of given trajectories? And lastly, does a gender difference exist in the relationship of socioeconomic prospects and union trajectories? In describing the trajectories to the second union and investigating the associated factors, this study extends our understanding of conjugal partnership histories in a post-modern period.

3.2 Theoretical Perspectives and Empirical Evidence

3.2.1 The Changing Meaning of Marriage

While the first demographic transition involves steady declines in mortality and fertility, the second demographic transition is characterized by greater flexibility in entry and exit from conjugality that has occurred since the 1960s (Lesthaeghe 1995). A fundamental change in intimate relationships and family involves the deinstitutionalization of marriage, which refers to the weakening of the social norms that defined marriage behaviour (Cherlin 2004:848). Cherlin identified two transitions underlying the deinstitutionalization of marriage: the first is the transition from the institutional marriage to the companionate marriage (Burgess & Locke 1945); the second involves the transition from the companionate to individualized marriage (Giddens 1992). Despite evidence for the deinstitutionalization of marriage and the lessened practical significance of marriage in Canada and the United States, the symbolic significance of marriage may have increased, i.e., marriage is often seen as the most venerated and highly valued option of conjugality (Axinn & Thornton 2000; Luscombe 2010; Edin & Reed 2005; Smock et al. 2005).

Researchers have attributed the shifting meaning of marriage to the changing contexts of marriage, including perceptions of romance, the expansion of post-secondary education, changes in the labour market, and the rise of postmodern materialism (Bulcroft et al. 2000; Cherlin 2004; Oppenheimer et al. 1997; Sweeney 2002). The "desired" adequate living standards, for example, are becoming more critical to marriage than ever before (e.g., Smock et al. 2005; Sweeney 2002). Marriage, to some extent, is seen as the achievement of an "economic package, including home ownership and financial stability (Smock et al., 2005), but also "having the wherewithal to throw a 'big' wedding is a vivid display that the couple has achieved enough financial security to do more than live from paycheck to paycheck" (Edin & Kefalas 2005:115). In addition, marriage denotes a unique "enforceable trust", a public and long-term commitment expression, signifying its privilege (Cherlin 2004:854). Indeed, marriage has changed from "a mark of conformity" to "a notable achievement – a marker of social status" (Cherlin 2011:11). Answering the question "why, then, are so many people still marrying", Cherlin (2004:855) points to the symbolic significance of marriage:

> Marriage is at once less dominant and more distinctive than it was. It has evolved from a marker of conformity to a marker of prestige. Marriage is a status one builds up to… . It used to be the foundation of adult personal life; now it is sometimes the capstone. It is something to be achieved through one's own efforts rather than something to which one routinely accedes.

Accordingly, the value and preference of marriage as an intimate partnership is still valued by individuals who grew up during a period of marriage deinstitutionalization. One of the most solid pieces of evidence is that American high school seniors continue to report high expectations and importance with regards to marriage (Thornton & Young-DeMarco, 2001). Thornton and Young-DeMarco found that more than three-quarters reported that "having a good marriage and family life" was extremely important. Similar results have been observed in Canada (Lochhead & Glossop 2007; Statistics Canada 1997). Recent studies on the marriage expectations of adolescents in Canada and the United States have shown that nearly 90 percent expect to marry, indicating that marriage as a conjugal form has not been rejected (Manning et al. 2007; Bibby 2009:199). With

this evidence, Manning et al. (2007) concluded that marriage is here to stay in the near future.

The shifting meaning of marriage is inevitably linked to the shifting meaning of cohabitation. Although cohabitation has become the modal way of union entry and it has undergone institutionalization (e.g., Cherlin 2004), it differs from marriage in terms of the social and cultural context (Ambert 2005; Brines & Joyner 1999; Kravdal 1999; Nock 1995; Reed 2006). A large body of research has shown that the cohesion mechanisms of marriage and cohabitation differ considerably, suggesting that they are qualitatively different types of relationships (e.g., Brines & Joyner, 1999). For example, sociological research has documented the difference between marriage and cohabitation in terms of: partner selection (e.g., Sanchez et al. 1998), happiness and commitment (e.g., Nock, 1995), fertility (e.g., Raley 2001; Le Bourdais et al. 2004), resource pooling (e.g., Kerr et al. 2006), division of household work (e.g., Kerr et al. 2006), duration and dissolution (e.g., Bumpass & Sweet, 1989; Le Bourdais et al. 2004), sexual infidelity (e.g., Treas & Giesen, 2000), and institutionalization (e.g., Cherlin 2004; Smock 2000).

Although cohabitation has been widely accepted at the societal level, differentials between cohabitation and marriage persist. Research before the early 1990s showed that cohabitation is more likely to be an "alternative to being single", "trial marriage", "free union", or a "prelude to marriage" (e.g., Rindfuss & VandenHeuvel 1990). In fact, by comparing a wide range of characteristics among three groups – the married, cohabiting couples, and non-cohabiting singles, Rindfuss and VandenHeuvel (1990) concluded that cohabitation is akin to singlehood because of the similarities between the two: the lower commitment, fewer shared resources, and higher risks of dissolution. Studies have continued to reveal apparent differences between cohabitation and marriage (e.g., Ambert 2005; Heuveline & Timberlake 2004; Kerr et al. 2006; Le Bourdais et al. 2004). For instance, the likelihoods of pooling resources (e.g., having a joint bank account) or raising children are much lower among cohabiting than married couples (e.g., Kenney 2004; Kerr et al. 2006). The subjective meanings attached to marriage and cohabitation also vary considerably. For example, cohabitors with child births were found to use cohabitation strategically to avoid greater expectations of commitment, relationship quality, and the more traditional and scripted family roles associated with marriage (Reed 2006).

3.2.2 Theoretical Perspectives on Conjugal Union Transitions

The theoretical perspective of this chapter integrates insights from the social exchange theory used by sociologists and demographers (e.g., Levinger 1965; Wu 2000) as well as the life-course approach from the developmental theorists[6] (e.g., Elder 1985, 1994). The social exchange perspective postulates the "gains to trade" model of mate selection, emphasizing the gains, barriers, and alternatives in terms of conjugal partnership transitions (e.g., Becker 1981; Becker et al. 1977). On the basis of Gary Becker's (1981) "gender specialization and trading model", it is implied that socioeconomic prospects regarding labour force experience affect the propensity of marriage positively for men, but negatively for women. However, the "relative income hypothesis" (Easterlin 1978) and "career-entry theory of marriage" (Oppenheimer 1994, 2003) emphasize the perceived affordability of marriage and the importance of socioeconomic prospects for both men's and women's marriage entry in a risky and materialistic society.

The life course theory, a multidisciplinary paradigm in sociology, offers "a framework for studying phenomena at the nexus of social pathways, developmental trajectories, and social change" (Elder et al. 2003:10). As Bengtson and Allen (1993:471) stated, the life course perspective "emphasizes the importance of time, context, process, and meaning on human development and family life." These frameworks have been applied to examine the impact of family-of-origin, labour market, expansion of post-secondary education, and relationship careers, on union transitions and family-life trajectories (e.g., Amato et al. 2008; Billari & Liefbroer 2010; Elzinga & Liefbroer 2007; Gladwell, 2008; Goldscheider et al. 2006; Lichter & Qian 2008; Mills 2000; Poortman 2007; Schoen et al. 2007; Wu & Schimmele 2005;Wilson 1987).

[6] For more theoretical discussion of social exchange theory and life course theory, see chapter One.

3.2.3 Trajectories to Second Union Formation

While less research has been devoted to union trajectories, short-term partnership trajectories (e.g., first cohabitation → first marriage) have been incorporated in research on pathways to adulthood, since first union, first marriage, and first birth usually are milestones signalling adulthood (e.g., Elzinga & Liefbroer 2007; Ravanera et al. 2006; Rajulton et al. 2008). The relevant literature on union transitions and transitions to adulthood will be reviewed in this section.

One salient finding from the stream of research on transitions to adulthood is the considerable disparities or inequalities in family-building behaviours across social status, a phenomenon termed the "polarization of family life" (e.g., Amato et al. 2008; Goldstein & Kenney 2001; Ravanera et al. 2006; Schulze & Tyrell 2002). This research contends that disparities in family-building behaviours are intensified or exacerbated by socioeconomic status (McLanahan 2004; Schulze & Tyrell 2002; Rajulton et al. 2008). In particular, serial cohabitation, denoting multiple cohabiting relationships, is more prevalent among socially disadvantaged groups (e.g., Lichter & Qian 2008; Lichter et al. 2010; Schoen et al. 2007).

This polarization, for example, has been illustrated by a recent study by Amato and colleagues (2008). Their study explores the precursors of family formation pathways among young women aged 18-23 in the United States using the data from the National Longitudinal Study of Adolescent Health. They showed striking patterns in pathways to family life in terms of social status: women who followed the "college-no family formation" pathway enjoyed a noticeably advantaged status in terms of family-of-origin and personal resources, as opposed to their counterparts who embarked on cohabitation, marriage or earlier childbearing. A similar finding has been reported by Ravanera et al. (2006) using 2001 Canadian General Social Survey. They examined whether preferred marital trajectories (i.e., direct marriage after graduation or work, which can be expressed as *graduation/work → work /graduation →marriage)* is significantly associated with social status among women from 1966-75 birth cohort. Similar to the American study by Amato et al. (2008), they found that Canadian women from higher social classes are twice

as likely as their counterparts who are from lower social classes to follow the preferred trajectories to first marriages.

In line with life course theory, numerous studies have shown that the initial union transition significantly influences subsequent union transitions, affecting the odds of subsequent cohabitation, marriage, and divorce (e.g., Balakrishnan et al. 1987; Hall & Zhao 1995; Mills 2004; Wu & Schimmele 2005). The impact of previous partnership histories on repartnering has been examined in several studies (e.g., Mills 2004; Poortman 2007; Wu & Schimmele 2005). Mills (2004) has done pioneering work in applying the life course perspectives to partnership histories. By comparing the partnership transformation of two Canadian generations (i.e., who were born in 1946-50 and 1961-65, respectively), Mills showed that the younger Canadian cohort exhibits a process of pluralisation in partnerships (e.g., more stages in partnership trajectories and more variations in the types of partnerships).

In addition, a study on repartnering by Wu and Schimmele (2005) also sheds light on the trajectories to the second union. Their study focuses on how the first union exiting statuses affect repartnering. The key factor consists of four types of first union dissolution: 1) *cohabit→separate, 2) cohabit→marry→ separate/divorce, 3) cohabit/marry →death of partner, and 4) marry→separate/divorce*. Using the 1995 General Social Survey, they showed that the probabilities, timing, and types of second union formation differ significantly by the first union exiting statuses. Consistent with previous research on subsequent union transitions, for instance, they showed that within five years after the first union disruption, over half formed their second union and that the repartnering process substantially differs by relationship careers and gender (e.g., Blanc 1987). Likewise, Statistics Canada (2002: 8) reported striking differences in pathways to second union formations. It is estimated that Canadian women in their 30s in 2001 were about twice likely to form a second cohabiting union than a second marital union after the dissolution of their first direct marriages. However, the corresponding odds increase to 14 times after the dissolution of first marriages preceded by premarital cohabitation.

The gender differentials in conjugal transitions have also been documented in prior research (Axinn & Thornton 1993; Goldscheider & Waite 1986; Poortman 2007; Sweeney 1997). According to social exchange theory and life course theory, union

transitions in different life stages apparently diverge significantly by gender. For example, the lower likelihood of women repartnering and remarrying is associated with various factors, including the relative benefits of conjugal union (e.g., Becker 1981) and the repartnering market (e.g., Poortman 2007).

3.2.4 Factors Influencing Union Transitions

Structural Resources in the Family-of-Origin

The intergenerational transmission of human behaviours has been studied in interdisciplinary research (e.g., Amato 1996; Axinn & Thornton 1992 1993; Lareau 2003; McLanahan & Bumpass 1988). For example, a large body of research has indicated that individuals who experienced a parental divorce or grew up in a non-intact family are more likely to experience poverty (Amato 1996), to do less well in school (McLanahan & Sandefur, 1994), to start their first union earlier (Turcotte & Goldscheider 1998), to cohabit rather than marry in their first unions (Turcotte & Goldscheider 1998), to dissolve a cohabiting union by separation (Wu & Balakrishnan 1995), to marry early (McLanahan & Bumpass, 1988), to experience divorce (Balakrishnan et al. 1987), and to have less preferred or more disordered early family life trajectories (e.g., Rajulton et al. 2008). Specifically, in one of the well-cited studies on intergenerational consequences of family structure, McLanahan and Bumpass (1988) concluded that childhood family instability has a significant influence on American children's family-life behaviours, contributing to early marriage, early birth, premarital birth, and divorce. Although the strength of this effect may change (e.g., Wolfinger 1999), recent research still has shown a persistent negative relationship (e.g., Carvajal 2006; Rajulton et al. 2008; Li & Wu 2008).

This intergenerational transmission of family-life behaviours resonates with the notion of the polarization of family life. Besides family structure, the socioeconomic status of family-of-origin is a significant factor in predicting educational and occupational achievement, which in turn affects union transitions (e.g., Lareau 2003; Berington & Diamond 2000). For example, family social status was the most salient predictor in Berington & Diamond's (2000) study on the first partnership formation in Britain. They found that the disadvantaged who were born around 1960 were more likely to enter into

cohabitation over marriage, at a faster pace, in comparison with their more advantaged counterparts.

Furthermore, this association also has been emphasized by a series of analyses by Rajulton and colleagues (2006, 2010) on the basis of Canadian data from the General Social Survey (GSS) and Survey of Labour and Income Dynamics (SLID). They have found that young Canadians from lower social classes, especially those from the "missing social class" (i.e., information pertaining to social class is missing, measured by parents' educational attainments, occupation, and income), are more likely to experience early cohabitation without completion of post-secondary education. Similarly, in examining this association among young adults between 1970 and 2002 in Norway, Wiik (2009) used the phrase "you'd better wait" to emphasize the positive relationship between socioeconomic family background and delayed first marriage: direct marriage was delayed among children from wealthier childhood backgrounds whereas the timing of first cohabitation was more rapid among individuals with less educated parents. The intergenerational transmission is attributable to economic deprivation, the process of socialization, and social capital inside families (e.g., Amato 1996; Coleman 1988; McLanahan & Bumpass 1988; Wiik 2009).

Economic Factors

Union transitions are significantly influenced by a person's economic prospects in the labour market, presumably due to the importance of financial circumstances on union transitions (e.g., Becker 1981; Kravdal 1999; Oppenheimer 1994, 1997). Indeed, a large body of sociological research has shown that the occurrence and stability of marriage are responsive to economic circumstances (e.g., Becker et al. 1977; Goldscheider & Waite, 1991; Goldscheider et al. 2001, 2006; Oppenheimer 2003; White & Rogers 2000). For example, the delays in early life transitions, especially in terms of marriage and parenthood – a phenomenon labelled as the "generation on hold" by Canadian Sociologists Côté and Allahar (1996), or popularly termed as the "failure to launch syndrome" (Henig 2010) – are largely associated with the deterioration of youth's relative positions in the labour market since the 1970s (e.g., Beaujot 2006; Blossfeld et al. 2005; Morissette 1998; Oppenheimer 2003). The changes in union transformations are inextricably linked to the increased difficulties of economic achievement for young men and a spread of a culture-wide higher standard of marriage (Clarkberg, 1999; Edin & Kefalas, 2005; Mills et al. 2005; Oppenheimer 2003; Sweeney 2002; Wilcox 2011). In particular, one strand of research has underscored the influence of the shrinking pool of "marriageable" men, invariably defined in terms of employment status or earnings, on union transformations (e.g., Lichter et al. 1992). Likewise, Cherlin's (2009) book, "The Marriage-Go-Round: The State of Marriage and the Family in America Today", highlights the disengagement from both the institutions of work and marriage by the working class.

Men's socioeconomic prospects have consistently been shown to exert a positive impact on their family formation processes, such as marriage entry (Becker 1981), the transition from cohabitation to marriage (Goldscheider et al. 2006), marriage following a nonmarital birth (Clarkberg 1999), and remarriage (Sweeney 1997). Indeed, the "good provider" role usually trumps most other considerations when it comes to the marriage decision (Raley & Bratter 2004; South 1991). Most importantly, men's economic attributes play a more critical role in marital entry than in forming a cohabiting union (e.g. Oppenheimer 2003; Sassler & Goldscheider 2004). Forming a "marriage" or "family" requires the "good provider" and this role is often assigned to males (Bernard 1981;

Goldscheider & Waite, 1986; Manning 2002). Evidently, men's socioeconomic prospects also serve as a deterrent factor in marital dissolution (e.g., Becker et al. 1977; White & Rogers 2000).

Alternatively, much of the current debate concerning the role of socioeconomic prospects in union transitions centers on women (Sweeney 2002). Two dominant analytic perspectives are Becker's specialization-and-trading theory of marriage and Oppenheimer's "career-entry" theory of marriage. Becker's (1981) theory, based on social exchange in the context of a traditional division of labour in the family, contends that women's increasing socioeconomic prospects invariably reduces their incentives to marriage. As a result, women's economic independence is the primary cause of family upheaval. Alternatively, Oppenheimer's "career-entry" theory, emphasizing new family models based on two-earners, along with the new marital bargain, postulates a positive effect of women's socioeconomic prospects on transitions to marriage. As gender roles have blurred in the labour market and family, especially in conjunction with men's stagnant or declining economic prospects, the "new family model" (i.e., an egalitarian and two-earner model) enhances the "family's competitive position" in a stratified society (Beaujot & Liu 2005; Marshall 2006; Oppenheimer 1994; 1997). As a result, the relationship between women's socioeconomic prospects and union formation can take different forms in different historical periods with altered dominant family models.

Following Oppenheimer's (1988) seminal work, empirical research, especially longitudinal analyses at the individual level, has provided solid evidence supporting the income hypothesis, i.e., women's higher income is linked to a higher probability of marital entry (e.g., Sweeney 2002). A reversed relationship between women's economic prospects and marital entry over time has been shown in two Canadian studies. Using the 1995 General Social Survey, Turcotte and Goldscheider (1998) found that younger women with higher education are more likely to marry than their counterparts born before 1950. Similarly, Mongeau et al. (2001) found that work interruptions are linked with higher odds of marrying among older cohorts of women, whereas uncertainties at work are more likely to be associated with cohabitation instead of marriage among the younger cohorts.

In order to obtain a clearer picture on the impact of women's socioeconomic prospects on union transitions, Table 3.1 provides a brief summary of some recent relevant studies. This stream of research has focused on the role of socioeconomic prospects on transitions to cohabitation and marriage. This overview confirms that the association is inconclusive, but somewhat positive. The only negative factor in transition to marriage is school enrolment. Clearly, being enrolled in school creates disincentives to marriage. As a consequence, economically independent women, whom Bernard (1972) called "cream of the crop" women, are more likely to marry and enjoy marital stability in comparison with their counterparts (e.g. Ravanera & Rajulton 2007; Sweeney 2002). Therefore, economic independence not only makes women more attractive marital partners, but facilitates women's marriage and childbearing by providing financial resources to be able to "afford" to marry under the prevalence of two-earner family models (Oppenheimer 1997).

In addition, the financial barriers deterring the transition from cohabitation to marriage among disadvantaged groups have been extensively documented in a growing body of qualitative studies (e.g., Edin & Kefalas, 2005; Gibson-Davis et al.2005; Reed 2006). Indeed, Smock and colleagues (2005:687) spoke of "money as capstone in the cohabitation-marriage sequence: everything's there except money," in spite of the love and trust. Furthermore, research on attitudes toward conjugality has confirmed the convergent expectation in terms of gendered economic prospects in family formation: both men and women reported that they would prefer to marry someone with higher income and education (e.g., Raley & Bratter 2004; South 1991; Wiik 2009). For example, Raley and Bratter (2004:174) reported that both sexes ranked "more education and income" as the top two preferred characteristics in a heterosexual spouse.

Effects of Children on Union Transitions

Children as "specific marital capital" affect the chance of union transitions, depending upon their timing and biological relations to spouses (e.g., Brien et al.1999; Mills & Trovato 2001; Goldscheider & Sassler 2006). Given the interdependency of family formation, the presence of children increases the odds of transforming cohabitation into marriage (Brien et al. 1999; Goldscheider & Waite 1986; Musick 2007; Wu & Balakrishnan 1995). For example, in a classical study on the interrelated family-building behaviours involving cohabitation, marriage and nonmarital conception, Brien et al. (1999) showed that a non-marital conception generally precipitates marriage. Similarly, Goldscheider et al. (2006:35) found that other things being equal, Canadian men having a birth with their partners are three times more likely to enter into marriage than their counterparts who are childless. A child conception actually increases the odds of marriage entry by 18 times. The positive association is due in part to the desire to offer social and legal protection to the child (Brien et al. 1999). Also, fertility generates incentives and aspirations for marriage (e.g., Lichter et al. 2006; Goldscheider & Sassler 2006).

On the other hand, children tend to reduce the chance of repartnering, in particular for women (Becker et al. 1977; Lampard & Peggs, 1999; Wu & Schimmele 2005). However, the impact of previous fertility history on men's odds of repartnering is mixed. Some research found a negative effect (Clarkberg, 1999), some research noted a positive effect (Goldscheider & Sassler, 2006), and some research reported no effect (Lampard & Peggs, 1999). One major explanation of the gender difference in the relationship between children and reparterning probably lies in the fact that parenting differs significantly by gender; women may be less inclined to repartner and may encounter a worse repartnering market (Becker et al. 1977; Poortman 2007).

Table 3.1 Studies on the influence of economic resources on union transitions for women

Study	Data	Sample	Economic variables	Transition to	
A. Effects of economic variables on transitions out of cohabitation				**Marriage**	**Separation**
Brown (2000)	NSFH (US.)	Cohabiting couples	Female partner's education	ns	ns
			Female partner's earnings	ns	ns
			Female partner's employment	ns	ns
Manning & Smock (1995)	NSFH (US.)	Cohabiting men and women	Full-time employment	ns	negative
Smock and Manning (1997)	NSFH (US.)	Cohabiting couples	Female partner's earnings	ns	ns
			Education	ns	ns
Wu & Balakrishnan (1995)	FFS 1990 (CAN.)	Cohabiting men and women	Education	ns	ns
			Educational enrolment	ns	ns
Wu & Pollard (2000)	SLID (1993-1994) (CAN.)	Cohabiting men and	Profession occupation	ns	ns
			Semi-professional, full time	ns	Positive
			Education	ns	ns
			Personal income	ns	positive
				Transition to	
B. Effects of economic variables on the first union transition among singles				**Marriage**	**Cohabitation**
Clarkberg (1999)	NLSC1972	Single men and women	High relative income	positive	positive
			Earning	positive	positive
			Education	positive	ns
Ravanera & Rajulton (2007)	SLID 1993-1998 (CAN.)	Single men and women	Education	positive	NA
			Employment	positive	NA
Sweeney (2002)	NLSY (US)	Men and women	Education	positive	NA
			Earning	positive	NA
			Employed	ns	NA
Thronton et al. (1995)	IPSPC (US)	Men and women	Education	positive	NA
Turcotte & Goldscheider (1998)	GSS 1995 (CAN.)	Men and women	Education	ns	ns
Xie et al. (2003)	HSB 1980-1992	Men and women	Earning	ns	ns
			Education	ns	negative

Note:
The selected studies mainly examined the union transitions that occurred in 1980s and after in Canada and the United States.
Positive or negative means coefficient statistically significant at $p<0.05$;
ns=not statistically significant at $p<0.05$.
Data sets:
NSFH=National Survey of Families and Households;
FFS=Family and Friends Survey;
SLID = The Survey of Labour and Income Dynamics;
NCDS=The National Child Development Study;
NLSC=National Longitudinal Study Class of 1972;
NLSY=National Longitudinal Survey of Youth;
IPSPC=Intergenerational Panel Study of Parents and Children;
GSS= General Social Survey;
HSB= High School & Beyond;
Based on a similar table regarding the impact of men's and women's economic resources on union transition, Smock et al.(2005:682).

3.3 Data and Methods

3.3.1 Sample

Data are from the 20th cycle of the General Social Survey, on Family Transitions, conducted by Statistics Canada in 2006. It is a sample of 10,346 men and 13,262 women (n= 23,608) aged 15 years and older, excluding residents of the Yukon, Northwest Territories, and Nunavut, and full-time residents of institutions. The overall response rate for the survey was 68.7 % (see Statistics Canada, 2008b, for detailed information about the sample design and estimation procedures). Given the complex sampling procedures (multi-stage sampling) used in the data collection, the individual sampling weights (WGHT_PER) are used in the statistical analysis. Although this adjustment cannot solve all the problems in estimation caused by the complexities of sampling designs used in GSS-20, it is believed that employing the individual sampling weights issued by Statistics Canada would produce reasonable estimates (Ravanera & Rajulton 2006, Statistics Canada 2008b). In particular, the estimation weights were adjusted using a raking ratio calibration (post-stratification) technique on the basis of many factors, including the sampling design.

The sub-sample selected for the event analysis (519 men and 558 women) was chosen according to the following criteria. The sample was first restricted to those individuals born in 1960-75 with at least two unions, since the current focus is on trajectories to second union in a shifting context of conjugal life. Secondly, persons whose first marriages occurred before age 15 were excluded (about 10 cases), considering that these "early" marriages are so distinct (e.g., Schoen et al. 2007).

Lastly, the sub-sample was further limited to Canadians outside of Quebec. This rests on two major considerations. On the one hand, conjugal life varies greatly between Quebec and the rest of Canada (Le Bourdais & Marcil-Gratton 1996). Over time, cohabitation has become an alternative to marriage in Quebec, leading to the prevalence of cohabitation as the first union and the second union. That implies that types of conjugal unions exhibit little variation. On the other hand, the theoretical framework of the shifting meaning of cohabitation and marriage on union transitions does not fit the circumstances

in Quebec, where the two are more likely to be alternatives. Furthermore, focusing the analysis on the rest of Canada facilitates comparison of union trajectories between the rest of Canada and the United States (e.g., Le Bourdais et al. 2004; Kerr et al. 2006; Niu 2008).

3.3.2 Dependent Variables

The dependent variable is a trichotomy, including three categories of trajectories toward second union formation: a) two-marriage, b) one-marriage, and c) serial-cohabitation trajectory. It is derived by tracing various trajectories to second union formation through the following seven states: 1) never-in-union (age 15 and more), 2) first cohabitation, 3) first de-habitation, 4) first marriage, 5) first marital dissolution, 6) second cohabitation, 6) second de-habitation, and 7) second marriage (Appendix Figure 3.1 presents the seven-multistate model transition to second union; for more details on the trajectories to second union formation, see Chapter 2). It is of note that a marriage preceded by premarital cohabitation is seen as a single union, since the partner remains the same.

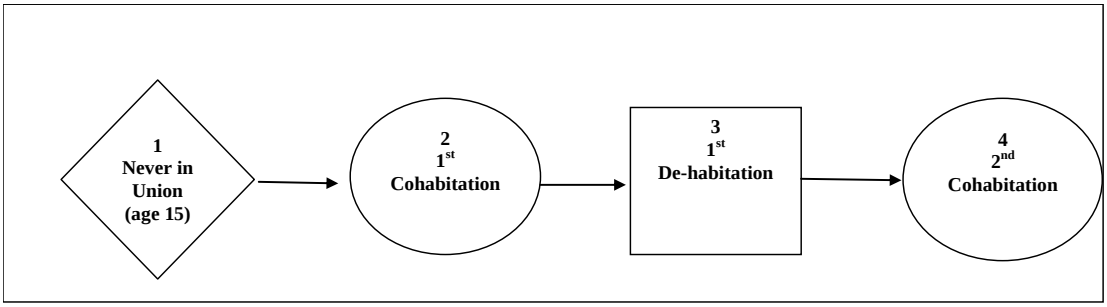
Figure 3.1 and Table 3.2 display the three categories of the dependent variable. As seen in Figure 3.1(A), the serial-cohabitation trajectory is the simplest one, consisting of merely two non-marital cohabiting unions in sequence. This trajectory can be expressed as *never-in-union* $\rightarrow$ *1st-cohabitation* $\rightarrow$ *1st dehabitation* $\rightarrow$ *2nd-cohabitation.* That is, no marriage occurs in the sequence, labelled "serial cohabitation" (e.g., Lichter et al. 2010). On the other hand, as shown in Figure 3.1(C), the two-marriage trajectory encompasses two marriages in the pathway, regardless of pre-marital cohabitation. The essence of these *trajectories include never-in-union* $\rightarrow$ *1st-marriage* $\rightarrow$ *1st-demarriage* $\rightarrow$ *2nd-marriage.*

Another type of trajectory is labelled as the one-marriage trajectory, as shown in Figure 3.1 (B). As the label suggested, it consists of pathways involving only one marriage. This first marriage can either be the first union (e.g., *1st-marriage → 1st-demarriage → cohabitation)* or the second union (e.g., *1st-cohabitation →1st-dehabitation →1st-marriage),* irrespective of premarital cohabitation. Indeed, two distinct types of one-marriage pathways are included in this category. For instance, the former trajectory involves divorce, implying much more legal complications than the latter type involving the dissolution of first common-law union and entry of first marriage.

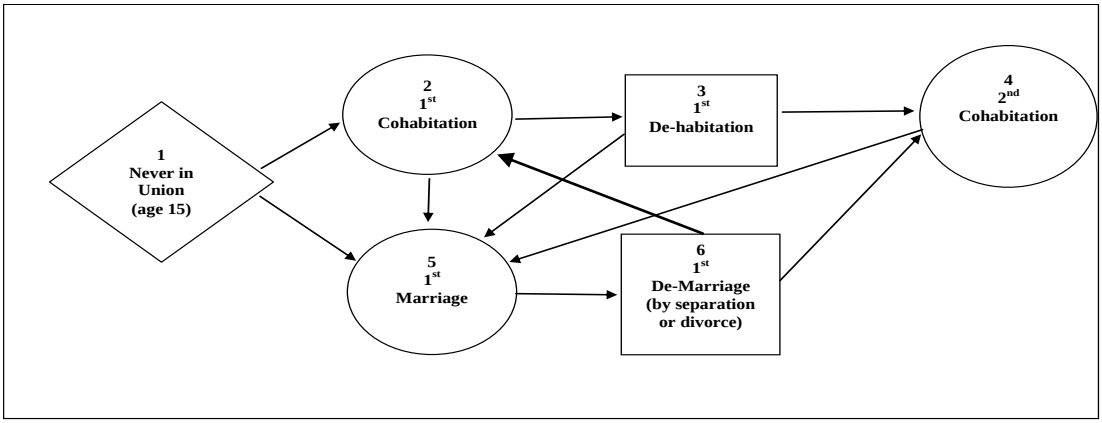
The categorization of those two types of one-marriage sequences into one-marriage trajectory is based on two main considerations: 1) the focus of this research is to assess whether the number of marital entries is associated with the socioeconomic prospects and 2) a further subdivision of the dependent variable would undermine the quality of the parameter estimation, given the small sample sizes. Table 3.2 presents the three types of trajectories shown in Figure 3.1 by using the typical sequence expression.

Figure 3.1 Dependent variable: Three types of trajectories toward second union formation

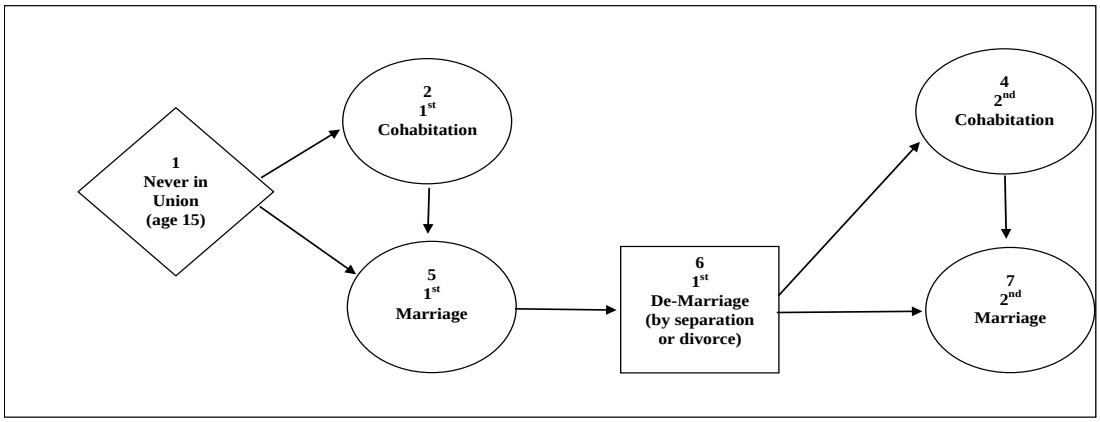
A: Serial-cohabitation trajectory



B: One-marriage trajectory



C: Two-marriage trajectory



Note: marriage preceded by premarital cohabitation is regarded as one union in the survey because the partner remains the same.

Table 3.2 Templates for the second union formation trajectories, dependent variable

Trajectories	**Trajectories and Transitions**
Serial-cohabitation	nu→1c→1dc ⇒2c
One-marriage©	nu→1m→1dm ⇒1c
	nu→1c→1m→1dm ⇒2c
	nu→1c →1dc ⇒1m
	nu→1c →1dc ⇒2c→1m
Two-marriage	nu→1m→1dm ⇒2m
	nu→1m→1dm ⇒2c →2m
	nu→1c→1m→1dm ⇒2m
	nu→1c→1m→1dm ⇒2c →2m

Note:
Marriage preceded by premarital cohabitation is seen as one union due to the fact that the partner remains the same.
→transitions
⇒ Transitions to the second union;
©: one-marriage trajectory includes two distinct sequences, one sequence consisting of first marital union and second cohabiting only union and another one encompassing first cohabiting only union and subsequent marital union.
nu = never-in-union;
1m = 1st-marriage;
1dm = 1st-dissolution of marriage;
2m = 2nd-marriage;
1c = 1st-cohabitation;
1dc = 1st-dehabitation;
2c = 2nd-cohabitation.

3.3.2 Independent Variables

A significant weakness of research regarding the impact of socioeconomic prospects on union transformations is the limitation in the measures representing socioeconomic prospects (e.g., Ravanera & Rajulton 2007; Sweeney 1997). For example, Sweeney (1997:486) regarded socioeconomic prospects as representing the critical context for where instrumental decisions on union transformation. The author argued that socioeconomic prospects could include educational attainment, labour force experience, occupational status, as well as mental ability and other abilities.

The key independent variable used in the current analysis, that is, socioeconomic prospects, is measured by two main proxy measures: 1) respondent's highest level of educational attainment, and 2) respondent's work status since beginning of career. Clearly, an individual's education can be taken to be an approximate measure of human capital and potential socioeconomic prospects (e.g., Becker, 1981; Goldscheider et al. 2006). Work status since beginning of career represents labour force experience and the relative stability of income (e.g., Warren & Walters 1998).

More specifically, educational attainment is measured at an ordinal level, ranging from 1 (doctoral/master graduate) to 10 (elementary). It was recoded to three categories: less than a high school diploma, high school, and post-secondary education (PSE). There are a small number of cases (n=18) with missing values on the education level of the respondent (e.g., don't know or not stated). Rather than using simple deletion, those cases were classified into the category of less than high school. Although this procedure makes a fairly strong assumption of association between missing data and low educational attainment, it is expected that the effects of socioeconomic prospects in this sample will not be significantly affected by this small size of missing cases.

Work status since beginning of career[7] is coded as a binary variable, including 1 (always working full-time) and 0 (otherwise). The start of working career was defined as the first period of work at a job or business for a period of six months or longer, excluding work while you were going to school.

Although occupational status, income and asset ownership are the more important and direct indicators of socioeconomic prospects or social class (e.g., Grabb 2002: 224-228), it is not possible to include those measures in the current study due to data restrictions. Household income in the past year is included in the survey. However, this is not a good indicator of individual socioeconomic prospects. Despite the importance of occupation, the available variable in GSS-20, work type since the beginning of career, is only measured by the question of "were you mainly a paid worker, self-employed or an unpaid family worker". This would not be a good indicator of occupational status.

Several variables related to union transitions were included in the modeling as control variables. Family structure is a binary response variable, including living with both biological adoptive parents before age of 15, or otherwise. Birth cohort has two categories, consisting of the older cohort born in 1960-67 and the younger cohort born in 1968-75. First birth measures the occurrence of first biological child birth. It has three categories: no first biological birth by the time of the survey, first birth occurred before age 22, and after age 22. Lastly, referring to the importance of attitudes and values in family-life building behaviours, religiosity, measured through religious service attendance, is an ordinal variable. It has three categories, ranging from 1 (not at all) to 3 (frequently). The limitations of some of those measures resulted from the cross-sectional survey design,

[7] The respondent's work status since beginning of career is called WKSTASUS in GSS-20. This question was asked of respondents who had at least one work period. The work period is defined as work more than 6 months, besides school, by asking the question "excluding work while you were going to school, have you ever worked at a job or business for a period of six months or longer." The variable of work status since the beginning of career has few categories, including 1)full-time only, 2) part-time only, 3) full and part-time, and three types of missing data (not asked, not stated, and don't know). Furthermore, this variable is derived from three variables, namely NMWKFULL (number of full-time work periods), NMWKPART (number of part-time work periods), NO_WKPER (total number of work periods) (Statistics Canada 2008b).

which leads to the failure in capturing the changes in variables along the life course. For example, the binary variable on family structure and the level of religiosity run the risks of ignoring the complexity of family structure and changes in beliefs over time.

Table 3.3 provides the percentage distribution of variables used in this study. The first column displays the distributions in the whole sample and the following two columns show the distributions for men and women, respectively. With respect to the trajectories to second union formation, about 30% of individuals went through the two-marriage trajectory, 50% experienced the one-marriage trajectory, and 20% passed through the serial-cohabitation trajectory. Men are more likely to follow the serial-cohabitation trajectory than women.

Since gender is expected to be a significant factor in the analysis, Table 3.3 shows the independent variables by gender. The gender differences in work careers, first birth, and religiosity are statistically significant. As anticipated, compared with women, men are less likely to have part-time work careers, first biological birth, and frequent religious attendance. More specifically, about 70% of men had full-time work careers since the beginning of work, while this applied to 46% of women. Nearly 30% of men reported no first birth, compared to about 20% of women. In terms of religiosity, nearly 20% of women attended religious services frequently, about 30% attended sometimes, and about 50% did not at all. The corresponding figures for men are about 15%, 30%, and 50%, respectively.

Other predictors are almost evenly distributed by gender. Most individuals (70%) grew up with both parents during their childhoods. With regard to father's education level, about half reported their fathers had less than a high school education, while the remaining half of the sample was evenly distributed among father's with a high school education and those with post-secondary education. When it comes to respondent's human capital, more than half reported a post-secondary educational degree, about one-third had a high school diploma, and approximately 10% had not earned their high school diplomas.

Table 3.3 Distribution (%) of variables in analyses, birth cohort 1960-75

	Total sample	Men	Women
Dependent Variable **			
Two-marriage trajectory	30.4	31.4	29.4
One-marriage trajectory	49.8	45.7	53.7
Serial-cohabitation trajectory	19.8	22.9	16.9
Predictors			
Family structure			
Lived with both parents	72.0	73.8	70.3
Did not live with both	28.0	26.2	29.7
Father's Education			
Less than HS	50.4	48.6	52.2
High School	25.8	27.4	24.2
Post-secondary	23.9	24.1	23.7
Respondent's Education			
Less than HS	12.0	13.3	10.8
High School	31.4	32.9	30.1
Post-secondary	56.5	53.8	59.1
Work status since the beginning of career ***			
Always full-time	57.9	71.1	45.7
Otherwise	42.1	28.9	54.3
Birth cohort			
1960-67	37.9	37.4	38.4
1968-75	62.1	62.6	61.6
First birth ***			
No first birth	24.4	29.9	19.2
Before age 22	22.3	14.8	29.3
After age 22	53.3	55.3	51.5
Religion attendance ***			
Not at all	52.9	55.5	50.4
Sometimes	31.2	30.6	31.7
Frequently	15.9	13.9	17.9
Total N	**1077**	**519**	**558**

Notes: Results are based on weighted data;
Chi-Square tests on gender differences in variables: ***p<0.005; **p<0.05.
Missing cases for predictors in "Total sample" of having two unions and more (the second column): 56 cases for family structure (Not asked), 149 for father's education (25 Not asked; 1 Not stated; 123 Don't know), 18 for Respondents' education (Not stated); 83 for work status since beginning of career (65 not asked; 4 not stated; 14 Don't know); 28 for religious attendance (24 not stated; 4 Don't know).

3.3.4 Methods

Multinomial logistic regression was used to predict the odds of going through either the two-marriage or serial-cohabitation trajectories in comparison to the one-marriage trajectory. This method[8] is appropriate for a categorical dependent variable with more than two response categories and allows for simultaneous estimation of polytomous outcomes (DeMaris, 1992, 1995).

As introduced before, the dependent variable includes three types of trajectories to second union formation: 1) two-marriage, 2) one-marriage, and 3) serial-cohabitation trajectories. Considering that the three types of trajectories are qualitatively different, the one-marriage trajectories serve as the baseline comparison group. One-marriage trajectories are the dominant type, accounting for nearly half of the pathways.

The predicted probabilities can be obtained from the following multinomial logistic regression:

$$h_{ij} = \log \frac{p_{ij}}{p_{iJ}} = \alpha_j + \mathbf{x}_i\beta_j,$$

where α_j is a constant and β_j is a vector of regression coefficients, for j = 1, 2… J-1. J indicates the categories of response variable. This model is analogous to a binary logistic regression model, with the exception that the multinomial probability distribution of the response leads to J-1 equations for the predicted probabilities, instead of one equation in binary logistic regression. However, the interpretation of results remains the same. That is, the coefficients represent the change in the log-odds for one-unit change in the explanatory variables (DeMaris, 1992). In the results section, the effects of the parameters (β_j) are expressed in relative risks (odds ratio), which are the exponentiated values of the regression coefficients (e^{β}). Odds ratios less than 1.00 indicate a reduced risk, whereas odds ratios greater than 1.00 suggest an increased risk. The magnitude of odds ratio indicates the change in relative risks, when the corresponding independent

[8] The utilization of multinominal logistic regression results in the exclusion of censored cases. That is, respondents who did not experience at least two unions are excluded. To incorporate the censored cases in the analysis, further study could consider using a discrete-time event history model.

variable changes from the baseline group to the comparison group. The results are presented separately for men and women in order to test key differences by gender, as suggested by prior studies (Oppenheimer 1997; Sweeney 1997).

3.4 Results

3.4.1 A Socio-Demographic Profile of Trajectories to Second Union Formation

Who goes through which trajectories to the second union formation? Table 3.4 presents the percentage distribution of types of trajectories in terms of the independent variables. On the whole, the results indicate that the advantaged groups (e.g., growing up in an intact family and owning a post-secondary degree) are more likely to go through the trajectories involving marriage(s), with the exception of individuals with a prior biological birth. Not surprisingly, individuals with no children of their own have the highest percentage following the serial-cohabitation path, whereas individuals whose first birth occurred after age 22 are more likely to go through the two-marriage path. The significance test (chi-square) shows that all associations between the dependent and independent variables are significant with the exception of work status since the start of careers. Respondents in the serial-cohabitation path were less likely to have lived with both parents at age of 15 (e.g., 62.4% for serial-cohabitation vs. 78.9% for two-marriage path) and more likely to have fathers with less than a high school diploma. As expected, the older cohort and more religious individuals were less likely to go through the serial-cohabitation path.

Table 3.4 A socio-demographic profile of trajectories to the second union formation, individuals born in 1960-75, rest of Canada

Predictors	**Two-marriage**	**One-marriage**	**Serial-cohabitation**
Family structure***			
Lived with both parents	78.9	71.6	62.4
Did not live with both	21.1	28.4	37.6
Father's education***			
Less than HS	43.0	52.6	55.6
High School	30.2	24.6	22.0
Post-secondary	26.8	22.8	22.4
Respondent's education ***			
Less than HS	9.2	11.0	18.7
High School	28.1	33.5	31.3
Post-secondary	62.7	55.5	50.0
Work status since the start of career			
Always full-time	61.2	58.8	51.2
Otherwise	38.8	41.2	48.8
Birth cohort ***			
1960-67	29.3	39.7	46.5
1968-75	70.7	60.3	53.5
First birth ***			
No first birth	19.5	19.1	45.3
Before age 22	22.0	24.3	17.8
After age 22	58.5	56.6	36.9
Religious attendance ***			
Not at all	38.5	54.9	69.5
Sometimes	35.2	32.2	22.5
Frequently	26.3	12.8	8.0
Total N	**328**	**536**	**214**

Notes:
Results are based on weighted data;
Chi-Squared tests are all significant at $p<0.05$ level.

3.4.2 Results from Multinomial Logistic Regression

Table 3.5 presents the odds ratio of going through the two-marriage or serial-cohabitation trajectory versus the one-marriage trajectory. Part I shows the odds of experiencing the two-marriage vs. one-marriage trajectory, while part II presents the odds of undergoing the serial-cohabitation vs. one-marriage trajectory, for the total sample, men and women. The results generally confirm the findings reported in Table 3.4 in the bivariate association: socioeconomically disadvantaged men and women are more likely to follow the serial-cohabitation trajectories in comparison with their more advantaged counterparts.

As shown in Table 3.5, men are significantly more likely than women to undergo serial-cohabitation compared to a one-marriage trajectory than are women *(OR =1.551, $p<0.01$).* Family structure is a significant factor. Individuals who are from an intact family are 1.4 times (*OR =1.395, $p<0.05$)* more likely to follow the two-marriage versus one-marriage trajectory, when compared to their counterparts. Meanwhile, they are about 60% *(OR =0.612, $p<0.01$)* less likely to take the serial-cohabitation vs. one-marriage trajectory, than their counterparts. Moreover, this "intact family" effect is slightly stronger for men than for women in the odds of two-marriage vs. one-marriage model, given that the coefficient for men is marginally significant at *$p<0.10$* level .

Table 3.5 Odds ratios of trajectories to second union formation: total sample and separately by gender, rest of Canada

	Total Sample A	Men B	Women C	Total Sample D	Men E	Women F
	Part I			Part II		
	Two-marriage Trajectory			**Serial-cohabitation trajectory**		
	Versus One-marriage trajectory			**Versus One-marriage trajectory**		
Gender (Women)						
Men	1.301^			1.551**		
Family structure (Did not live with both)						
Lived with both parents	1.395*	1.572^	1.360	0.612**	0.643^	0.619^
Father's education (PSE)						
Less than HS	0.742	1.002	0.569**	1.043	1.691	0.702
High School	1.128	1.818*	0.702	0.807	1.587	0.458**
Respondent's education (PSE®)						
Less than HS	0.894	0.855	0.972	1.949**	2.663**	1.263
High School	0.767	0.609*	0.904	1.096	1.211	0.945
Work Status since the beginning of career(Otherwise)						
Always full-time	1.021	0.999	1.081	0.626**	0.674	0.588*
Birth cohort (1960-67)						
1968-75	0.632***	0.463***	0.800	1.230	0.915	1.537^
First birth (occurred after age 22)						
No first birth	0.958	1.306	0.575^	3.642***	3.186***	4.400***
Before age 22	1.017	1.281	0.899	0.939	0.759	1.250
Religion attendance (Frequently)						
Not at all	0.326***	0.197***	0.486**	2.001*	1.772	2.114^
Sometimes	0.520***	0.39***	0.63^	1.191	0.980	1.364
Constant	0.232	0.550	0.217	-1.614***	-1.435**	-1.481**
Total N				1077	519	558
Nagelkerke R-Square				0.185	0.242	0.169
-2Log-likelihood				1476.7	706.2	739.2

Notes:
Weighted data;
Reference categories are included in the parenthesis; ®PSE: post-secondary education;
Levels of significance: ****p< 0.005, ** p<0.01; *, p< 0.05, ^p<0.10.*

It is interesting to note that the impact of father's education is opposite for men and women, although the effect is insignificant in the whole sample (Columns A and D). In general, women whose fathers had a post-secondary education are more likely to follow two-marriage and serial-cohabitation vs. one-marriage sequences, when compared with their counterparts. But this is the not the case for men. Men with fathers who have post-secondary education are more likely to follow the one-marriage model.

The effect of respondent's educational attainment is also noteworthy. The effect is statistically significant for men only, although the signs of the coefficients are the same for men and women. The results indicate that men and women who are less educated are less likely to transform their cohabitations into marriages during the sequences to second union. Specifically, men with less than high school are about 2.5 *(OR =2.663, p<0.01)* times as likely as to follow serial-cohabitation vs. one-marriage path, and 60% *(OR=0.609, P<0.05)* as likely as to traverse the two-marriage vs. one-marriage path, in comparison to their post-secondary educated counterparts.

The work status since the beginning of career is a significant factor, affecting the risk of undergoing the serial-cohabitation vs. one-marriage trajectories for the total sample and the sub-sample of women. Having an always full-time work career significantly reduces the odds of following serial-cohabitation vs. one-marriage trajectories by nearly 40% *(*OR *=0.626, p<0.01* for total sample and *OR*=0.588, *p<0.05* for women's sample).

The control variables, as expected, show that the older cohort, those with stronger religiosity, and those who had a first birth after age 22 are more likely to go through the two-marriage vs. the one-marriage pathway. For instance, younger cohorts are nearly 50% *(OR=0.463, p<0.001)* as likely as the older cohorts to go through the two-marriage vs. the one-marriage trajectories. Presumably, this apparent difference is attributable to the censoring effect, i.e., younger cohorts do not have enough time to experience the second marriage compared to the older cohorts before the survey time.

Turning to the effects of the control variables on the odds ratio of serial-cohabitation vs. one-marriage trajectories (Part II), the influence of first birth stands out. Being childless is positively and significantly related to higher odds of cohabitation rather than marriage. Men and women who are childless are nearly three times *(OR=3.186,*

p<0.005) and four times *(OR=4.4, p*<0.005) more likely to follow serial-cohabitation vs. one-marriage paths, when compared to their counterparts who had first birth after age 22. Lesser religiosity is associated with elevated risks of following serial-cohabitation vs. one-marriage trajectories.

In short, intact family-of-origin and higher religiosity are significantly associated with higher odds of following the union trajectories involving marriage(s). Socioeconomic prospects, operationalized by indicators educational attainment and work status since the beginning of career, exert more consequential influence on the odds of *serial-cohabitation vs. one-marriage*, compared to the risks of *two-marriage versus one-marriage trajectori*es. The results indicate that individuals with lower level of socioeconomic prospects are more likely to take *serial-cohabitation vs. one-marriage trajectories.* In general, the influence of socioeconomic prospects on the trajectories to second union formation is gender symmetric, with the exception of the educational attainment of fathers.

3.5 Discussion and Conclusion

Despite substantial prior research on conjugal union transitions – cohabitation, first union, divorce, and repartnering – union trajectories have been less investigated. Given the importance of conjugal trajectories, this study aims to fill the gap in our knowledge of trajectories to second union formation. Using retrospective data from 2006 Canadian General Social Survey, this study investigated the influence of socioeconomic prospects, while controlling for other confounding factors, such as family structure and religiosity, known to affect union transitions (e.g., Hall & Zhao 1995). Guided primarily by life course theory and social exchange theory (e.g., Cherlin 2004; Elder 2003), the analyses were based on a sample of Canadians born in 1960-75 and living in Canada outside of Quebec.

The analysis provides several interesting findings. First, there are important differences in the socio-demographic profile of individuals who make alternate trajectories to the second union formation. Contrary to the assumption of a dominance of serial-cohabitation from Canadians born in 1960-75, approximately 50% took the one-marriage and 30% followed the two-marriage trajectories, leaving about 20% in serial-cohabitation trajectories. The relatively high percentage of trajectories involving marriage(s) provides evidence for the view that marriage among this group of Canadians has not been substituted or forgone, therefore supporting the marital postponement argument in the debate on the future of marriage. Consistent with prior research on the stages of cohabitation and marriage in Canada, cohabitation serves as the "prelude to marriage" in the rest of Canada, where the majority would "give marriage a try" (e.g., Goldstein & Kenney 2001; Le Bourdais et al. 2004).

Also, the results indicate fairly high percentages (one-third) of two-marriage trajectories, which stands in contrast to the supposition of the demise of remarriage given the prevalence of post-marital cohabitation. Although direct entry into second marriage is unusual and selective (e.g., Wu & Schimmele 2005), it appears that remarriage is not out-of-date nor completely substituted by post-marital cohabitation among this group. This agrees with previous studies on remarriage patterns, which suggest that about one-third to

two-fifths of marriages occurring after the 1980s involve at least one remarriage partner (e.g., Bélanger 2003; Sweeney 1997). Moreover, the serial-cohabitation trajectories account for nearly one-fifth of the total, which reinforces the results from a small but growing body of studies on serial cohabitation in the United States (Bumpass & Lu 2000; Cohen & Manning 2010; Lichter & Qian 2008: 874). Nearly half of serial-cohabitation paths involve childbirth. Serial-cohabitation trajectories are also found to be associated with lower educational attainment and unstable working career. Considering the relatively high percentage of serial cohabitation and their higher level of instability, research has pointed out that this fact alone might be of special interests to policymakers concerning the well-being of individuals and children (e.g., Lichter et al. 2010; Schoen et al. 2007).

Secondly, as to the central question in this study, results show that the influence of socioeconomic prospects is more pronounced and consequential in the odds of serial-cohabitation trajectories than in two-marriage trajectories, when compared to the one-marriage trajectories. Educational attainment and work status since the beginning of career are significant factors in the *serial-cohabitation vs. one-marriage model*, whereas they are insignificant in the model of *two-marriage vs. one-marriage trajectories*. The more pronounced impacts of socioeconomic prospects pertaining to "no" marriage and "one" marriage are in line with findings from prior research, which attributes the "recycling" through a series of cohabitations to the higher financial barriers for marriage (e.g., Bumpass et al. 1991; Litcher & Qian 2008; Lichter et al. 2006; 2010; Smock et al. 2005).

At the same time, it is noteworthy that family structure and religiosity are significant factors in the model of *two-marriage vs. one-marriage path*, while the effect of educational attainment and working status is not significant. It is found that growing-up in an intact family structure and a high level of religiosity are significantly associated with more conservative attitudes toward family-building behaviours (e.g., Thornton et al. 1992; Wiik 2009). Prior research has documented the significant influence of attitudes, either shaped by socialization processes in the family or inherited from religion, on family-life behaviours (Axinn & Thornton 1993). Thus, the findings indicate that social values play a more important role than the indicators of socioeconomic prospects, when it comes to the odds of *two-marriage vs. one-marriage trajectories*.

Thirdly, the results reveal gender symmetry in terms of the influence of socioeconomic prospects on trajectories. In line with a considerable amount of research inspired by Oppenheimer's "career-entry" theory of marriage (1988, 1994), evidence presented here supports gender convergence in light of the influence of educational attainment and work careers on union trajectories. That is, for both men and women, higher educational attainment and having a full-time work status since the beginning of career are highly associated with trajectories involving marriage(s). The results are consistent with the observation of men's "good provider" role in union transition (Bernard 1981). The larger coefficient magnitudes for men than for women perhaps indirectly support the argument of the "shortage of marriageable men" in the continuing declines in marriage and rise in cohabitation, especially given the deteriorating economic status of young men since 1970s (e.g. Litchter et al. 1992, 2006, 2010). This also corroborates the well-established finding that the economic role of men is more important than that of women for the transitions to marriage (e.g., Sassler & Goldscheider 2004).

In addition, the findings show that women who have a full-time work status since the beginning of work are not only more likely to have the two-marriage pathways, but they are significantly more likely to "give marriage a try" rather than being involved in successive cohabiting relationships (e.g., Bracher & Santow 1998; Smock et al. 2005). This positive influence of socioeconomic prospects on transitions to marriage and remarriage among the younger generation of women has been shown in prior research (e.g., Sweeney 1997, 2002). This gender symmetry is consistent with shifting family models and changed meaning of marriage, and cohabitation since the 1970s (Beaujot & Liu 2005; Cherlin 2004; Marhsall 2006; Sweeney 2002). It has been suggested that modern marriage requires two persons with mutual trust and resources to sustain this privileged type of conjugality (e.g., Cherlin 2004; Sweeney 2002).

In particular, the reversal of the relationship between the socioeconomic prospects of women and marital prospects over time (i.e., the debate between economic independence hypothesis and income hypothesis) reflects historical and contextual contexts of union transitions (Oppenheimer 1997). This finding also resonates with recent studies on attitudes and preferences regarding mate selection, suggesting that women's economic independence either increases their attractiveness (South 1991; Raley & Bratter

2004) or provides the possibility to afford marriage (e.g., Oppenheimer 1995; Sweeney 1997, 2002). As Le Bourdais and colleagues (2004:940) state, "the principal motor of recent conjugal changes is to be found in the redefinition of men's and women's roles in society and in conjugal relationships".

Despite the gender symmetry in the effects of education and work career, it is interesting to note that education is not significantly related to the trajectories of women, nor is working status since the start of career for men. Not surprisingly, the net influence of education for women has often been found to be insignificant, since this effect probably differs over various cohorts of women (e.g., Wu & Pollard 2000). The positive but insignificant effect of men's careers since the start of work falls in line with recent research, which shows a diminishing effect of man's employment status on marriage (Sassler & Goldscheider 2004; Sweeney 2002). Perhaps, as Goldscheider et al. (2006: 29) argued, men's educational attainment serves as a better proxy for permanent income and earnings potential, since it represents the most general measure of the ability to provide. Or, perhaps other indicators, such as income, asset ownership, and occupational status are better measures of socioeconomic prospects (Grabb 2002; Sweeney 1997). Unfortunately, the examination of those effects was not possible in the current analysis, due to data limitations in General Social Survey.

Although father's education is insignificant in the whole model, a gender difference appears in the association between educational attainment of father and union trajectories. Women with a post-secondary education are more likely to follow serial-cohabitation and two-marriage pathways vs. one-marriage pathways, in comparison to their less educated counterparts, whereas the opposite is true for men. Such gender differences probably result from the gendered socialization process (i.e., boys may be socialized to make decisions more independently than girls) and the double standards of sex scripts and attitudes held by parents and social networks (Axinn & Thornton 1993; Brien et al. 1999; Goldscheider & Waite 1986).

Lastly, the results provide strong support for the "intergenerational transmission" theory with respect to family-behaviours: there is a significant positive association between intact childhood family structures and conjugal trajectories consisting of marriage(s) (e.g., Berington & Diamond 2000; Rajulton et al. 2008). This effect is even

stronger for men than for women. This may be due to gender differences in the intervening processes concerning family breakdown, such as socialization, role modeling, and transformation of social capital (e.g., Diekmann & Engelhardt 1999; Coleman 1988; McLanahan & Bumpass 1988; McLanahan 2004; Wiik 2009). For instance, marital expectation is significantly lower among those from nonintact family backgrounds (Riggio et al. 2008), and the likelihood of marriage diminishes largely among those having strong perception of the risk of divorce (Waller & Peters 2008).

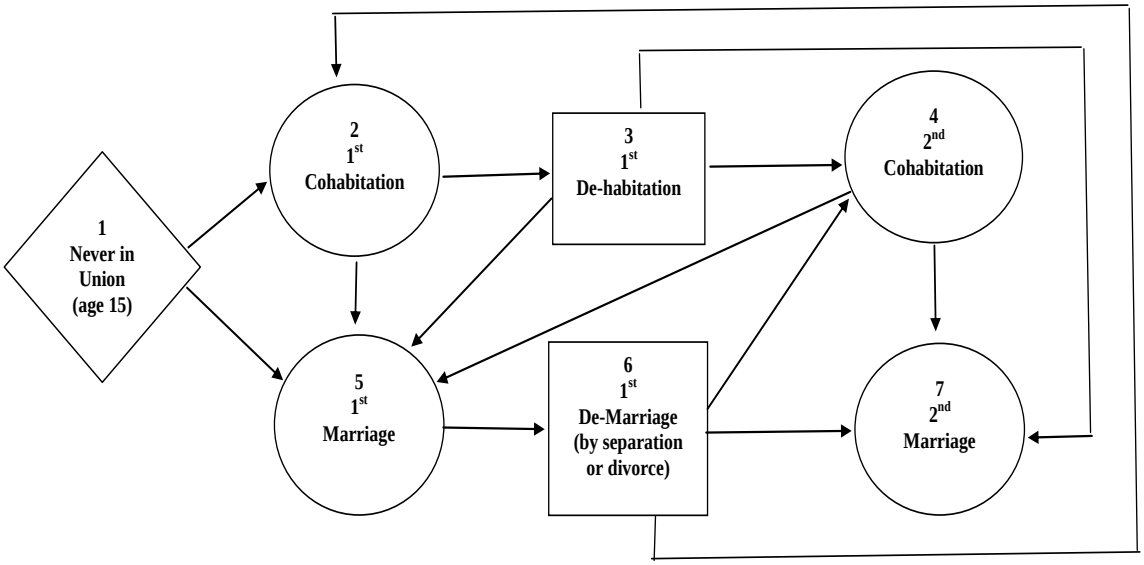
This study examined the influence of socioeconomic prospects, measured by educational attainment and work status since the beginning of career, on conjugal trajectories to second union formation. The objective is to assess to what extent intimate partnerships among young Canadian who are living in the rest of Canada are affected by socioeconomic prospects. The results clearly show that socioeconomic prospects do matter and the effects of proxy measures differ. Moreover, gender symmetry in the influence of socioeconomic prospects on conjugal trajectories is found. Overall, this finding concurs with the phenomenon of "polarization of family life" emerged during the past few decades in advanced Western economies, where disparities in family-building behaviours (e.g., cohabitation, marriage, and birth) are exacerbated by socioeconomic prospects (e.g. Amato et al. 2005, 2008; Goldstein & Kenney 2001; Edin & Reed 2005; Rajulton et al. 2008). More broadly, individuals with more structural or personal resources are found to be significantly more likely to go through the "ordered", "normative", "preferred", or even "privileged" family-life trajectories (e.g., Rajulton et al. 2008). This is a substantively important finding, because the analysis brings the effect of socioeconomic prospects in the study of conjugal trajectories. Intimate relationships have been described as the so-called "self-made biographies" of "pure" relationships in post-modern societies (Giddens 1992). Although "personal choice and development loom large in people's construction of their marital careers", this analysis supports the view that conjugal trajectories are embedded within social structures and entangled with other factors, such as family-of-origin, values, and socioeconomic prospects (e.g., Cherlin 2004:853; Mills 2004; White & Rogers 2000).

One substantive implication of this study is the emerging disparity on socioeconomic prospects associated with conjugal partnership trajectories, which has

been the central focus of prior research on family-building (e.g., Goldstein & Kenney 2001; Smock et al. 2005; Rajulton et al. 2008). Accompanied by the changing contexts of marriage and gender roles, the inequalities in conjugal union histories in the future will be expected to increase (e.g., Goldstein & Kenney 2001; Hou & Myles 2008; Sweeney 1997). Given the consequences of conjugal transitions and trajectories on the well-being of individuals, children, and society, policy should focus on how to overcome the social, economic, and psychological barriers to marriage and family formation faced by the disadvantaged.

Future work could address the unresolved questions that remain in this study. First, further studies could include the durations of each event in sequences for trajectory differentiation. For example, it is obvious that a 7-month pre-marital cohabitation is a qualitatively different event from a 7- year premarital cohabitation. In this sense, the description of trajectories would be expanded substantially (e.g., *never-in-union→1st-cohabitation/7months→1st-marriage vs. .never-in-union→1st-cohabitation/ 84months→1st-marriag*e). Second, although the focus of this study is on conjugal trajectories, future research could consider the pathways involving conjugal unions across several domains, such as child birth, labour market activities, and residential mobility (Guzzo 2006; Schoen et al. 2007; Rajulton et al. 2008). Third, future research could utilize other useful datasets, especially prospective longitudinal data and couple-level data. For example, union is a joint behaviour and understanding union transitions necessitates couple-level analyses. This is especially the case when the socioeconomic prospects of women start to resemble those of men, bearing heavily in union transitions. Lastly, as suggested by a large body of prior research (e.g., Sassler 2010), family and partnering are continually shifting and research incorporating significant factors, such as ethnicity, immigration status, and attitudes, would contribute to our understanding of what is happening to families.

Appendix Figure 3.1 Multistate models of conjugal trajectories to the second union formation



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Chapter IV

Stability of Men's and Women's First and Second Marriages: The Impact of Childbearing and Cohabitation History

4.1 Introduction

The stability of marriage has been of interest to social scientists over the past few decades (e.g., Becker et al. 1977; Cherlin 1992; Le Bourdais et al. 2000, 2004; Light & Ahn 2010; Milan et al. 2007; Statistics Canada 2002, 2008a; Rendall et al. 2011; Rogers 2004; White 1990; Wolfinger 2011). As Furstenberg (1990:308) noted, "divorce became an indispensable element in the institution of matrimony". Considerable research has examined patterns, trends, and determinants of marital disruption (Ambert 2009; Castro-Martin & Bumpass 1989; Morgan & Rindfuss 1985; Le Bourdais et al. 2000, 2004; Raley & Bumpass 2003; Statistics Canada 2002, 2008a). For instance, over one-third of Canadian marriages over the past three decades are expected to end in divorce by the 30th wedding anniversary (Statistics Canada 2008a).

Given the prevalence of divorce and substantial consequences of marital dissolution at the individual, family, and societal level (e.g., Amato & Booth 1997; Amato & Cheadle 2005; Ambert 2009; McLanahan & Sandefur 1994, Kerr & Michalski 2007), a large body of research has been devoted to explore the risk factors associated with marital dissolution (e.g., Balakrishnan et al. 1987; Becker et al. 1977; Booth & Edwards 1985; Bumpass et al. 1991; Cherlin 1978, 1981; see White 1990; Rogers 2004; Lyngstad & Jalovaara 2010 for reviews on marital dissolution).

However, prior research attention has been largely devoted to the understanding of the first marriage, leaving a gap in the knowledge of the second marriage (e.g., Saint-Jacques et al. 2011; Sweeney 2010). Teachman (2008:293), for instance, remarked that "the literature is mostly silent on factors linked to the dissolution of second marriages". Thus, the question as to whether certain risk factors are similarly associated with the

dissolution of first and second marriages remains unanswered. This area of research is important, given the high incidence of remarriage and strong hopes of partners (e.g., Coleman et al. 2000; Lochhead & Glossop 2007; Schoen & Stadish 2001). About two-thirds to three-quarters of divorced Canadians enter remarriages, despite the increasing popularity of post-marital cohabitation over the past two or three decades (Statistics Canada 2008a). According to Beaupre's (2008) study, approximately 70% and 58% of divorced men and women in Canada outside of Quebec remarried. More importantly, about one-third of the marriages that occurred in the past two decades involved at least one partner previously married (Bélanger 2006; Statistics Canada 2008a).

In spite of its deinstitutionalization, marriage has not lost its appeal, especially at an ideological level (e.g., Lochhead & Glossop 2007; Schoen & Standish 2001; Thornton Young-DeMarco 2001). For example, Bibby (2009:199) reported that more than 90% of Canadian adolescents expected to marry in the future, indicating that marriage has not been abandoned by adolescents. Manning and her colleagues (2007) have made similar observations in the United States. Likewise, Cherlin (2009) argued that family life in America is characterized by "marriage-go-round".

The paucity of research on second marriage is especially the case for men. In a study of stability of men's first union, for example, Jones (2010:242) has noted that "little is known about the divorce risks among men". The few existing studies on second marriages have primarily relied on samples of women (Erlangsen & Anderson 2001; Teachman 2008; Wineberg 1992). Additionally, little is known regarding whether a noticeably gendered pattern exists in the second marital disruption, even though the gender difference in remarriage entry has been documented intensively (e.g. Goldscheider & Sassler 2006; Ganong et al. 2006; Sweeney 1997; Lampard & Peggs 1999; De Graaf & Kalmijn 2003; Stewart et al. 2003). Therefore, studies of the risk factors of marital dissolution by gender and marital order would provide insights into marital cohesiveness and dissolution (e.g., Ganong et al. 2006; Heaton & Blake 1999; Teachman 2008). It is particularly useful to study life course factors, such as the childbearing and cohabitation history, in the stability of higher order marriage (Cancian et al. 2011; Coleman et al. 2003; Teachman 2003, 2008).

The purpose of this research, therefore, is to explore the stability of men's and women's first and second marriages, with a focus on the impact of childbearing and cohabitation history. It is to be accomplished by testing four major pairs of hypotheses regarding childbearing and cohabitation histories: 1) the "marital-specific capital" hypothesis, 2) the pre/intermarial birth hypothesis, 3) the first marriage cohabitation effect hypothesis, and 4) the second marriage cohabitation effect hypothesis. Drawing upon data from the 2006 General Social Survey on Family Transitions, this study systematically examines the risk factors associated with the risk of marital dissolution by gender and marital order. By extending research on first marital disruption to a higher order, this study examines how risk factors differ by marital order and gender. The analysis contributes to our knowledge regarding gender and the life course (Teachman 2008). The results suggest that the gendered nature of the life course becomes even stronger as life course unfolds, as documented by the results that the effects of covariates differs considerably by gender in the dissolution of second marriages.

4.2 Theoretical Perspective and Hypotheses

Social exchange theory has often been used in the literature of family studies to guide research on marriage formation and dissolution (Becker et al. 1977; Levinger 1965, 1979; Lundberg & Pollak 2007; South 2001; Wu 1994). In emphasizing the socioeconomic perspective of marital dissolution, Levinger (1965) theorized marital cohesiveness and dissolution on the basis of three major categories of forces affecting marital breakdown: a) the benefits of marriage, b) the barriers to marital dissolution, and c) the alternatives to marriage. Guided by this perspective and the literature on the determinants of marital stability, four sets of hypotheses are proposed.

4.2.1 Does Mutual Biological Birth Increase Marital Stability?

Mutual biological children born within a marital union are generally believed to function as a form of "marital-specific capital", which ties spouses together and has a positive effect on union stability (Becker et al. 1977:1156; Waite & Lillard 1991). Alternatively, children raise the exit costs of marriages, including the social, emotional and financial costs (Becker 1981; Cherlin 1978; Kalmijn & Poortman 2006). Thus, biological childbearing within a specific marriage is expected to act as deterrent to marriage breakdown (Becker et al. 1977; Burch & Madan 1986; Waite &Lillard 1991). Prior empirical research has found that biological children within marriages, particularly young children, reduce the risk of marital dissolution (Anderson 1997; Heaton 1990; Waite & Lillard 1991; Wu & Hart 2001).

However, research on the association between births and dissolution of second marriages is limited. It is critical to explore this relationship given the complexity of fertility and conjugal life (Cancian et al. 2011; Statistics Canada 2008). For example, many women are still in their prime reproductive years while entering remarriages and a high proportion of second marriages involve partners who never married before (Lochhead & Glossop 2007; Teachman 2008; Wineberg 1992). Consistent with Becker's theory, few existing studies on the stability of women's second marriages have shown a persistent stabilizing effect of mutual childbearing. Using the 1987-1988 National Survey of Families and Households data in the United States, for instance, Wineberg (1992) showed a protective effect of childbearing in women's second marriages. He further highlighted the statistical significance of mutual birth, despite the fact that majority of women already had children in their first marriages.

Wineberg proposed three explanations for this long-lasting protective effect of childbearing: 1) marital-specific capital (e.g., childbearing in second marriages may provide an added incentive for the couple to remain married); 2) selectivity (e.g., women who were sure of their second marital future had higher odds of giving birth in second marriages); and 3) even higher costs of exit the second time (e.g., the deteriorating repartnering market). A Swedish study based on a sample of women substantiates this

finding, although the effect was weaker in higher order marriages than first marriages (Erlangsen & Anderson 2001). It is reasonable to expect a relatively weaker relationship in the second marriage considering the selectivity argument. It is reasonable to expect that individuals with divorce experiences would be less likely to remain in "unsatisfied" marriages at any costs, including biological children.

Apart from the destabilizing effect of mutual childbearing, its influence varies by the gender of the parent. The effect of mutual birth is expected to be stronger for women than men, given the gendered life course and parenting (e.g., Heaton & Blake 1999). Those gendered mechanisms, for example, include parenting (Thompson & Walker 1989), the repartnering market (Kalmijn & Poortman, 2006; Lampard & Peggs 1999; Sweeney 1997), the influence of prior fertility on repartnering (Goldscheider & Sassler 2006; Poortman & Lyngstad 2007; Stewart et al. 2003; Teachman 2008; Wu 1994), and the more severely adverse consequences of divorce on women (e.g., White & Rogers 2000). Gendered parenting further impedes repartnering for women including deterring potential partners and limiting available time for establishing a new intimate relationship (e.g., Heaton & Blake 1999; Lampard & Peggs 1999). In contrast, evidence from empirical studies on the association between prior fertility and repartnering for men is mixed (e.g., Ganong et al. 2000; Stewart et al. 2003; Sweeney 1997). Some studies have even shown that men with co-residential children were at a greater risk of repartnering and a diminished risk of divorce (Goldscheider & Sassler 2006; Stewart et al. 2003; Teachman 2008). In summary, a stronger stabilizing effect of mutual childbearing on marriage for women than for men is expected. The above arguments on the role of mutual biological childbearing in first and second marriages lead to my first pair of hypotheses:

> H1a – **"Marital-specific capital" hypothesis.** A mutual biological child is expected to have a significant and positive effect on the stability of marriages, for both first and second marriages as well as for both men and women.
>
> H1b - **Effect magnitude of "marital-specific capital" hypothesis**. The positive effect of a mutual biological child is expected to be stronger in first marriages than in second marriages and is also expected to be stronger for women relative to men.

4.2.2 Does Premarital or Intermarial Birth Reduce Marital Stability?

A premarital birth, especially if not from the marital union, has consistently been shown to have an adverse influence on the stability of first marriages (Balakrishnan et al. 1987; Bracher et al. 1993; Morgan & Rindfuss 1985; Raley & Bumpass 2003; Teachman 2002; Waite & Lillard 1991). For example, in examining the changes in risk factors in divorce across nearly three decades in the United States, Teachman (2002) provided solid evidence supporting the constantly destabilizing effect of premarital births as well as premarital conceptions, on first marriages. Similarly, the destabilizing effect of intermarital birth for women's second marriage was reported in several studies (Teachman1986; Wineberg1992).

Besides the timing of birth, the biological relationship between children and spouses is important (e.g., Becker et al. 1977; Hofferth & Anderson 2003; Ganong et al. 2006). Evolutionary psychological research has found that biology matters in terms of investment in the next generation, showing higher capital values assigned to one's biological children (e.g., Hofferth & Anderson, 2003). Teachman (2008) showed that intermarital fertility belonging to both subsequent marital spouses is not related to a higher risk of second divorce. The importance of differentiating this relationship rests on the increasing out-of-wedlock fertility, in conjugation with the complexity of partnerships, particularly in post-marital relationships (Bumpass & Lu, 2000; Cancian et al. 2011; Raley 2001; Falke & Larson 2007; Le Bourdais et al. 2004; Statistics Canada 2008a).

On the other hand, sociologists have emphasized the structural reasons contributing to marital instability regarding the presence of stepchildren (e.g., Sweeney 2010). Cherlin (1978) coined the phrase "an incomplete institution" of remarriage, mainly attributing the higher instability of remarriage to the void of institutionalized norms resulting from stepchildren. Stepchildren do not cement marriages as a "marital specific capital" since the stepparent has less to lose; and they exacerbate family functioning in remarriages (Ganong et al. 2006).

In addition, the risk magnitude of the influence of a premarital or intermarital birth differs for men and women (Berrington & Diamond 1999; Goldscheider & Sassler 2006; Wu & Hart 2001). Out-of-wedlock fertility is expected to exert a greater adverse impact for women than for men considering the social norms and parenting demands in terms of births. For example, Teachman (2008) found that fertility with others prior to second marriages substantially increases the odds of second divorce among women, but not for men. Accounting for the gendered difference in the role of prior fertility history in marriage cohesiveness, Teachman (2008:303) asserted that it reflects "the gendered nature of life course complexities" (Teachamn 2008:303). Accordingly, the second set of hypotheses is as the follows:

> H2a – **Premarital birth hypothesis**. The effect of premarital births on the stability of first marriages is significant and negative for both men and women, and the effect is stronger for women than for men.
>
> H2b – **Intermarital birth hypothesis**. The effect of intermarital births is significant and negative for the stability of women's second marriages, but not for men.

4.2.3 Is Cohabitation History associated with Increased Marital Dissolution?

The interesting puzzle of the constant and negative association between premarital cohabitation and marital stability has attracted considerable research attention (e.g., Kiernan 2002; Smock 2000; Wu 2000). Contrary to the "trial marriage hypothesis", which postulates a protective effect of premarital cohabitation upon marital stability through mechanisms of "weeding out" unsuccessful partnerships, a large body of empirical research has consistently documented a detrimental effect (e.g., Axinn & Thornton 1992; Demaris & Rao 1992; Hall & Zhao 1995; Lillard et al. 1995). The phrase "cohabitation effect" has been used to describe the higher risk of marital dissolution and lower quality of subsequent marriages associated with premarital cohabitation (e.g., Kamp Dush et al. 2003; Stanley et al. 2006:49). The "cohabitation effect" has been widely documented in a number of western societies: Australia (Bracher et al. 1993), Britain (Berrington & Diamond 1999); Canada (Balakrishnan et al. 1987; Hall & Zhao

1995), the Netherlands (Kalmijn& Poortman 2006), Sweden (Bennett et al. 1988), United States (Axinn & Thornton 1992), in addition to other Western European countries (Kiernan 2002).

Two explanations have been proposed for the cohabitation effect: selection and experience (e.g., Axinn & Thornton 1992, 1993; Hall & Zhao 1995; Stanley et al. 2006). The "selection hypothesis" presumes that the observed or unobserved characteristics of cohabitators make them divorce-prone. Indeed, cohabitators have consistently been found to possess more individualistic and unconventional attitudes toward marriage and family formation and, perhaps, higher expectations of union quality, or poorer relationship skills (Bennett et al. 1988; Smock 2000; Teachman 2003). The "experience hypothesis", posits a casual mechanism underlying the cohabitation effect, arguing that the experience of cohabitation itself alters the attitudes to marriage, thereby increasing marital instability (Axinn & Thornton 1992; Hall & Zhao 1995; Sassler 2004; see Stanley et al. 2006 for a review). Proponents of this explanation have suggested that the process of cohabitation per se engenders alternative interpretations of family formation, such as the increased acceptance of divorce (Axinn & Thornton 1992). For example, in analyzing marriage entry, McGinnis (2003) showed that the perceived costs and benefits of marriage are simultaneously reduced by cohabitation and concluded that marriage is actually discouraged by cohabitation experience.

In addition, the selection and experience explanation are not mutually exclusive. The "inertia of cohabitation" of Stanley and colleagues attributes the "cohabitation effect" to a dynamic process. The authors argued that "sliding" in cohabitation (e.g., "loss of perspective on possible alternatives") and subsequent marriages (e.g., "breaking up is hard to do") underlies the "cohabitation effect". As they (2006:504) noted, the greater risk of marital instability results from the ill-prepared marriage "because of the inertia from constraint — situations that couples might not otherwise have chosen if they had been more deliberative."

Moreover, researchers have recognized the importance of cohabiting history and the limitations of focusing merely on premarital cohabitation (Jones 2010; Teachman 2003). By taking a life course perspective and expanding the full spectrum of intimate relationships prior to marriages, research has shown that the risk of marital dissolution varies greatly by cohabitation or sexual history (Lichter & Qian 2008; Teachman 2003; Wu & Hart 2001; Wu & Schimmele 2005). Several studies, for example, have revealed that marriages preceded by serial-cohabitation run the highest risk of dissolution, when compared to marriages with other types of cohabitation history (Lichter & Qian 2008; Teachman & Polonko 1990; Teachman 2003). Given the gendered scripts on sexuality in society, this association also varies by gender (Axinn & Thornton 1993; Teachman 2003). For instance, having had more than one cohabitation is significantly related to a higher risk of marital disruption among men, but not among women. In contrast, an opposite effect was proposed by other studies. As Manning and Jones (2007:4) argued, those who "cohabited with more than one partner prior to marriage may have enough relationship experience to make better marriage choices than their counterparts who have only cohabited with one partner." Also, having had more than one cohabitation may break the "inertia of cohabitation", signalling a more deliberate consideration of marriage.

Another important aspect of cohabitation history involves cohabiting with whom. Contrary to the generally negative cohabitation effect, Teachman (2003) has highlighted that spousal-only cohabitation runs a risk of first marital disruption similar to marriage without cohabitation among American women. Interestingly, an opposite relationship was observed among man: "spousal-only cohabitation" significantly increases the risk of men's divorce (Jones 2010). Focusing on the stability of men's marriage, Jones (2010:252) concluded, "in general, cohabitation before marriage, even with plans of marriage, is detrimental for marital stability unless cohabitation also included living with others prior to living with one's first spouse."

The intriguing gender difference in the role of cohabitation history in the stability of first marriage probably arises from the gendered differentials in motivation and interpretation of cohabitation. Women exhibit a higher level of dedication, commitment, and loyalty to cohabitation than men (Rhoades et al. 2006). Qualitative studies, for example, have documented noticeable gender asymmetry in relationship commitments: women are more likely to interpret cohabitation as a "stepping-stone" to marriage (Stanley et al. 2006), whereas men are inclined to regard cohabitation as a "testing-stone" to marriage. Jones (2010) argued that, perhaps, men are more likely to use cohabitation to ensure the right marital choice than is the case for women. This gender differential could be further exacerbated by the "inertia of cohabitation". Referring to the above literature on the effect of cohabitation history on the stability of first marriages, the following set of hypotheses is proposed:

H3a - **Cohabitation effect hypothesis**. The effect of cohabitation, regardless of its number or type, is significant and negative on the stability of first marriages for both sexes.

H3b - **Spousal-only cohabitation hypothesis**. Compared to cohabitation with other than the first spouse, the negative effect of the first spousal-only cohabitation on first marital stability is stronger for men than for women.

Although the effect of cohabitation history on the risk of first marital disruption has been examined in several studies (Jones, 2010; Teachman, 2003), relatively little is known about second marriages (Aguirre & Parr 1982; Teachman 2008). Given the high incidence of second marriages, and given the frequency of post-marital cohabitation, it is useful to further study the effect of cohabitation on second marriages (Bumpass & Lu 2000; Cancian et al. 2011; Bramlett & Mosher 2002; Raley 2001; Wu & Schimmele 2005).Premarital cohabitation before second marriages was found not to be related to the increased risk of dissolution (Clark & Crompton 2006; Teachman 1986). This is attributable to the absence of selectivity and experience, given the fact that divorcees all experienced at least one terminated intimate, co-residential partnership (Teachman 2008). However, a negative and significant effect of premarital cohabitation on stability of second marriage is reported on the basis of British data (Parisi 2008).

With respect to cohabitation history, Teachman's (2008) study on women's cohabitation history provides a starting point. He found that cohabitation history was generally not associated with the risk of women's second marital disruption, except in the case of cohabitation with both spouses only. For instance, Teachman (2008:301) found that "women who cohabited with both their first and second husbands are more likely to end their second marriages than other women." But due to his small sample size and narrow age range (i.e., women aged less than 44), whether cohabitation history significantly affects second marriage stability remains as an open question, particularly for men. These arguments lead to the last set of hypotheses:

> H3c – **Second marriage cohabitation effect hypothesis**. Cohabitation history before the second marriage is not associated with the stability of second marriages, for both men and women.

> H3d – **First-and-second spousal-only cohabitation effect hypothesis**. Cohabitating with both first and second spouses will have a significant and negative effect on the stability of both men's and women's second marriages; the effect will be stronger for men than for women.

4.2.4 Control Variables

Age at marriage Age at marriage is consistently found to have a strong and negative effect on the hazard of first marital disruption, after controlling for other variables (Balakrishnan 1987; Bracher et al. 1993; Castro-Martin & Bumpass 1989; South 1995; Teachman 2002; White 1990). Likewise, an older age of starting the second marriage is significantly related to a diminished risk of second marital dissolution (Clark & Crompton 2006; Teachman 2008). In particular, age at marriage is considered to be one of the most well-established and consistent factors among all predictors of divorce in the literature, across time periods and marital cohorts (Morgan & Rindfuss 1985; Teachman, 2002, 2008; White 1990; Wu & Hart 2001). A number of explanations are suggested: 1) insufficient time in searching for appropriate match (Becker et al, 1977), 2) lack of maturity and preparedness for marriages (Bracher et al. 1993; Levinger 1976), and 3) the

lower barriers of dissolving a young marital union, and the higher chances of repartnering or remarriage (Booth & Edwards 1985; Lehrer 2008).

Birth Cohort Birth cohort is often used as a proxy for history of the individuals in that cohort in literature (Elder 1974, 1994; Ryder 1965). The transformation of marriage from a more instrumental to a more expressive relationship, the so-called deinstitutionalization of marriage, situates different cohorts in distinctive contexts of marriage and divorce (e.g., Cherlin 2004; Giddens 1992; Martin & Parashar 2006). In Canada, this process of deinstitutionalization was further facilitated by easier divorce laws promulgated in 1968 and 1985 (Ambert 2009; Le Bourdais et al. 2004).Thus, the younger birth cohorts are at a greater risk of marital dissolution than their older counterparts.

Parental divorce Intergenerational transmission of divorce, referring to children of divorcees are at a greater risk of dissolving their own marriages, has been consistently shown in the literature (Amato 1996; Li & Wu 2008; McLanahan & Bumpass 1988; Dierkmann & Engelhardt 1999; Wolfinger 1999). Research has attributed this consistent intergenerational transmission of divorce to various intervening or mediating variables, such as age at marriage and interpersonal relationship management skills (Amato 1996; McLanhann & Bumpass 1988). Accordingly, three hypotheses to explain this effect include: 1) the socialization hypothesis, 2) the stress hypothesis, and 3) the economic deprivation hypothesis. Evidence from empirical studies supports those assumptions at different levels (e.g., Diekmann & Engelhardt 1999; Li & Wu 2008). Additionally, studies on a diminishing effect of intergenerational transmission of divorce on the premise of the normalization of divorce in Western societies have provided inconclusive findings (Li & Wu 2008; Wolfinger 2011).

In addition, the impact of intergenerational influence is stronger for women than men, largely because the lives of women are more constrained by family circumstances (Caspi & Elder 1988), or because women are more sensitive than men to relationship dynamics (Thompson & Walker 1991). A series of studies by Amato and colleagues (1991, 1997, 2005), for instance, showed that daughters bear stronger associations between family-of-origin characteristics and various outcomes than sons. For example, the educational attainment of daughters was more likely to suffer after parental divorce

than was the attainment of sons. Nevertheless, little is known about how parental divorce influences the stability of offspring's second marriages.

Mother's educational attainment Mother's level of education could be regarded as a proxy for socio-economic status (SES). Somewhat surprisingly, prior studies have found that couples with highly educated parents experience a higher risk of marital disruption than their counterparts with low educated parents (Bumpass et al. 1991; Bracher et al. 1993; White 1990). Lyngstand (2006) explicate this relationship by attributing to several socio-cultural factors, such as "bourgeois culture" (i.e., the more liberal view of divorce and acceptance of children's dissolution of unhappy marriages by highly educated parents and lower level of religiosity). It is noteworthy to point out that the relationship between socioeconomic variables and marital dissolution is fluid, with empirical findings of positive, negative, and no associations (Lyngstad & Jalovaara 2010; Lundberg & Pollak 2007; Rogers 2004).

Respondents' educational attainment The effects of educational and labour market characteristics have attracted substantial research attention, especially for women (e.g., Oppenheimer 1997; White & Rogers 2000). There is consensus that men's higher level of educational attainment functions as a stabilizing factor in upholding their marriages; however, the relationship for women is mixed (Balakrishnan et al.1987; South 2001; Ono 1998; Rogers 2004). Empirical research has revealed a divergent effect of women's educational attainment on the risk of marital dissolution, which is consistent with the predictions of two competing hypotheses, i.e., "the economic independence hypothesis" (Becker et al. 1977) and "the income hypothesis" (Oppenheimer 1997). While the former presumes an increased risk of marital disruption associated with higher educational attainment among women based on Becker's specialization and trading model, the latter assumes a reduced risk of marital dissolution resting on Oppenheimer's career-entry model.

Careers since the start of work Careers also serve as a proxy for socioeconomic prospects. Similar to the role of educational attainment, the influence of careers on the risk of divorce differs by gender. That is, men's stable careers usually have a stabilizing effect on their marriages, while the effects of work career on women's risks of marital dissolution are mixed (Becker et al. 1977; Lundberg & Pollak 2007; Oppenheimer 1997; Rogers 2004). On the one hand, women's successful careers allow the freedom of buying themselves out of marriages. Marriages, on the other hand, could also be strengthened by women's career prospects, in particular during times when men's income was declining (e.g., Oppenheimer 1997; Rogers 2004).

Religion and religiosity As expected, more conservative religions and being strongly religious were associated with lower risks of divorce (Lehrer & Chiswick 1993; Clark & Crompton 2006). The negative association between the risk of marital dissolution and religiosity, often defined as the frequency of church attendance, has been reinforced in a large number of studies (Hall & Zhao 1985; Wu & Hart 2001).

Mother tongue and region The risk of marital dissolution varies by culture, which is closely tied to the meaning of and attitudes to marriage (White 1990). Conjugal life differs widely between Francophones in Quebec and Anglophones in the rest of Canada, who exemplify distinctive and prevailing cultures (e.g., Beaujot & McQuillan 1982; Laplante 2006; Le Bourdais & Marcil-Gratton 1996; Pollard & Wu 1998). Quebecers, for example, are less likely to form marriages but also more likely to dissolve marriages than their counterparts in the rest of Canada (e.g., Le Bourdais et al. 2004).

Residence Residence, a contextual or structural factor, is significantly related to the risk of marital dissolution. The risk of dissolution is found to be higher for urbanites than for those residing in rural areas, when other variables are constant (Balakrishnan et al. 1987; Bracher et al. 1993, De Graaf & Kalmijn 2006; South & Lloyd 1995). This is explicable in two ways. The first involves the lower search costs for a new partner in urban areas and higher levels of social integration in rural areas. The second is attributable to the greater likelihood of encountering a preferable new partner in urban relative to rural areas, leaving the marriages of urbanites at a greater risk of dissolution (South & Lloyd 1995). South and colleagues (2001) dubbed this "the macro-structural

opportunity theory of marital dissolution". A classical study illustrating macro-structural factors is from South and Lloyd (1995), who showed a positive and significant association between the risk of divorce and the unbalanced local sex ratio of available mates in the United States. In stressing the significance of spousal alternatives in marriage market, the authors (1995:33) contended that "marital dissolution is, in part, a product of the demographic opportunities embedded in the social structure".

4.2.5 Summary of Research Hypotheses

Table 4.1 summarizes the expected impact of explanatory factors in men's and women's first and second marital dissolution.

4.3 Data and Methods

4.3.1 Data and Study Sample

The data set used in this study was drawn from the 20th cycle of the General Social Survey, Family Transitions, conducted by Statistics Canada in 2006. The survey uses a nationally representative sample of 10,346 men and 13,262 women (n= 23,608) aged 15 years and older in Canada, excluding residents of the Yukon, Northwest Territories, and Nunavut, and full-time residents of institutions. Random Digit Dialing (RDD), a telephone sampling method, was employed for the data collection. The overall response rate for the survey was 68.7 % (Statistics Canada, 2008b).

Table 4.1 Expected impact of explanatory factors on the stability of first and second marriages, by gender

	First Marriages		Second Marriages	
Explanatory Factors	**Men**	**Women**	**Men**	**Women**
Childbearing				
Mutual biological marital birth	+	+	+	+
Premarital birth	-	-		
Intermarial birth			-	-
Cohabitation history before first marriages				
Cohabited with first spousal only	-	-		
Cohabited with other than first spouse	-	-		
Cohabitation history before second marriages				
Cohabited with both spouses			-	-
Cohabited with first spouse only			n	n
Cohabited with second spouse only			n	n
Cohabited with other than first or second spouse			n	n
Age-cohort predictor				
Younger age at marriage	-	-	-	-
Younger birth cohort	-	-	-	-
Social Background				
High level of mother's education	-	-	n	n
Parental divorce	-	-	n	n
Respondents' socio-economic background				
Higher education	+	-	n	n
Full-time work careers	+	-	n	n
Have religious affiliation	+	+	n	n
Higher religiosity	+	+	n	n
Francophones in Quebec	-	-	n	n
Urban	-	-	n	n

Note: (+) positive impact on marital stability; (-) negative impact on stability; (n) no association.

With a focus on family transitions, the survey gathered information on various domains, including family backgrounds, conjugal partnerships, fertility, and work experiences. Three aspects of the survey design are noteworthy. First, the survey has the unique advantage of including extensive retrospective life histories on the formation and dissolution of marriages as well as cohabitations up to the fourth instance. The information makes it possible to construct union histories through a complex string of questions included in survey Section 3 (marriages of respondent) and Section 4 (common-law unions of respondent). With respect to each conjugal union, questions were asked in terms of the timing of starting and ending, the ways of starting and ending (e.g., first marriages started by premarital cohabitation and ended by separation), and childbearing in the union. A series of variables (e.g., the timing of starting or ending first and second marriages, child birth, and cohabitation history) can be derived (for more information on measures, see Appendix Table 4.1, listing all variables used in this analysis).

Second, the survey measurement process is often fraught with various potential sources of error, affecting the parameter estimates (Statistics Canada 2008b). For example, recall error is somewhat inevitable in retrospective surveys (Eisenhoweret al. 1991). This type of error could be magnified by several reasons, such as the nature of questions (e.g., sensitive questions as to multiple cohabitations and out of wedlock births). Measuring and reducing the recall error require specific efforts on survey designs and data collection (Eisenhoweret al. 1991). Given the sensitive nature of questions on intimate relationships and reproductive histories, under-reporting is expected, which may imply slightly downward biases of parameter coefficients (Eisenhoweret al. 1991). Additionally, retrospective surveys usually run a risk of sample selection due to mortality, which could in turn bias the parameter estimates. However, the mortality effect is expected to be very slight for data gathered in advanced economies, when it comes to the parameter estimates on conjugal transformations (Bumpass et al. 1991; Ravanera et al. 1998).

Since the focus of this study is the stability of first and second marriages, there are two study samples: respondents who were exposed to the risk of dissolving first and second marriages. Of particular note is that survey data is not couple-level data. Table 4.2 presents the percentage distribution by marital status in the survey sample and the study

sub-samples. In terms of the survey sample, out of 23 608 respondents aged 15 years old in the dataset, 16 348 (69.2%) respondents were legally married at least once. Of those who had first marriages, 6 873 (42%) subsequently experienced first marital dissolution (4 936 for divorce or separation; 1 937 for the death of spouse). In addition, among those 6 873 former divorcees, 2 005 (29.1%) respondents entered into second marriages. Furthermore, nearly 41.5 % of second marriages had dissolved before the survey (609 via divorce or separation; 225 via the death of spouse).

The sub-sample restricts to respondents who were aged 20-71 at the time of the survey. Cases with missing values (e.g., the timing of starting or ending of a marriage) and incorrect information (e.g., dates of divorces are earlier than marriages) were excluded. This decision rests on the presumption of missing at completely at random. After these restrictions, the two analytical samples contain 1) the first study sample, which includes 13 560 respondents who were exposed to the risk of dissolution of first marriages, and 2) the second sample, which consists of 1 676 respondents who were exposed to the risk of dissolution of second marriages. The distribution of sub-samples by marital status is in Table 4.2. Regarding marriage periods, these marriages were formed from the early 1950s to 2006. At the time of the survey, first marriages were intact in 8 444 (62.3%) cases, while they dissolved in separation or divorce in 4 415 (32.6%) and in widowhood in 701 (5.2%) cases, respectively. Nearly equal percentages of the first marital dissolution were experienced by gender (37% of males versus 34% of females). The second marriages, on the other hand, were formed from the early 1960s to 2006. At the survey time, the second marriage remains intact in 1039 (62%) cases, in conjunction with 544 (32.5%) cases dissolved by separation or divorce, as well as, 93(5.5%) cases in widowhood, respectively.

Table 4.2 Survey sample and study samples: Percentage distribution by marital status

	First Marriages	%	Second Marriages	%
Original Sample (aged 15 and more)	23608		23608	
Marriages at risk of dissolution	16348	100	2005	100
Intact marriages	9475	58.0	1141	57.0
Dissolved by separation or divorce	4936	30.0	609	30.3
Widowhood	1937	12.0	255	12.7
Study Sample (aged 21-70)				
Marriages at risk of dissolution	13560	100.0	1676	100.0
Intact marriages	8444	62.3	1039	62.0
Dissolved by separation or divorce	4415	32.6	544	32.5
Widowhood	701	5.2	93	5.5

Source: General Social Survey, 2006, Canada

4.3.2 Measures

Dependent variable

The dependent variable is the survival odds of first and second marriages beyond certain marital durations. Survival odds were estimated by using information on events (e.g., whether a marriage was dissolved) and marital durations (measured in months; see Appendix Figure 4.1 for illustrations on marital duration computations). The timing of dissolving a marriage is set to the age of separation, divorce, or death of spouse, as applicable. Given that the focus of the current study is voluntary divorce, marriages dissolved due to death of spouse are excluded. In other words, following the common practice, marriages dissolved by the death of a spouse are censored, as are those that remain intact at the survey date (Bumpass et al. 1991; Lehrer & Chiswick 1993; Teachman 2008; Wu & Balakrishnan 1995).

It is important to highlight the measure of the timing of marital dissolution, given the availability of three potentialities (e.g., separation, divorce, and death of spouses). Age of separation was used to measure the timing of marital dissolution; age at divorce was utilized when separation age is unavailable (Balakrishnan et al. 1987; Bennett et al. 1988; DeMaris & Rao 1992; Teachman & Polonko 1990; Wu & Hart 2001). The preference of using age at separation rests on three considerations. First, the focus of this study is marital breakdown, instead of its legal status. Second, divorce is usually dependent upon the legal process, leading to inaccurate estimates of marital durations (Balakrishnan et al. 1987; Bumpass et.al. 1991; Wu & Balakrishnan 1995). As Raley and Bumpass (2003:248) note, "the timing of divorce is to some extent an artifact of the legal process and other extraneous factors, and some permanently separated couples never divorce. An analysis of divorce would provide distorted estimates of marital dissolution." Lastly, although separations are sometimes resolved by reconciliation, this bias is expected to be small (Balakrishnan et al. 1987; Bumpass et al. 1991; Raley 2003).

Explanatory Variables

Table 4.3 presents the coding of all explanatory variables used in this study. Three key explanatory variables are mutual biological child birth within a marriage, premarital or intermarital child birth, and cohabitation history. The child birth measures are dummy variables (coded as 1=yes, 0=no), indicating whether a birth has occurred. Of particular note is that the coding of childbearing captures the biological relationships of childbearing with both marital partners. A birth was counted as a mutual biological birth if marital partners are the biological parents of the child, regardless of birth timing.

Alternatively, a premarital or intermarital birth refers to non-mutual biological birth before a marriage. This approach is believed to properly reflect the function of children as "marital-specific capital" (Becker et al. 1977; Teachman 2008). The third key explanatory variable is cohabitation history. It is derived from a series of questions, indicating the types of prior cohabitations, i.e., never cohabited, spousal-only cohabitation, other than spousal cohabitation and so on. The cohabitation history before the first marriage has three categories, and it includes five categories before second marriages.

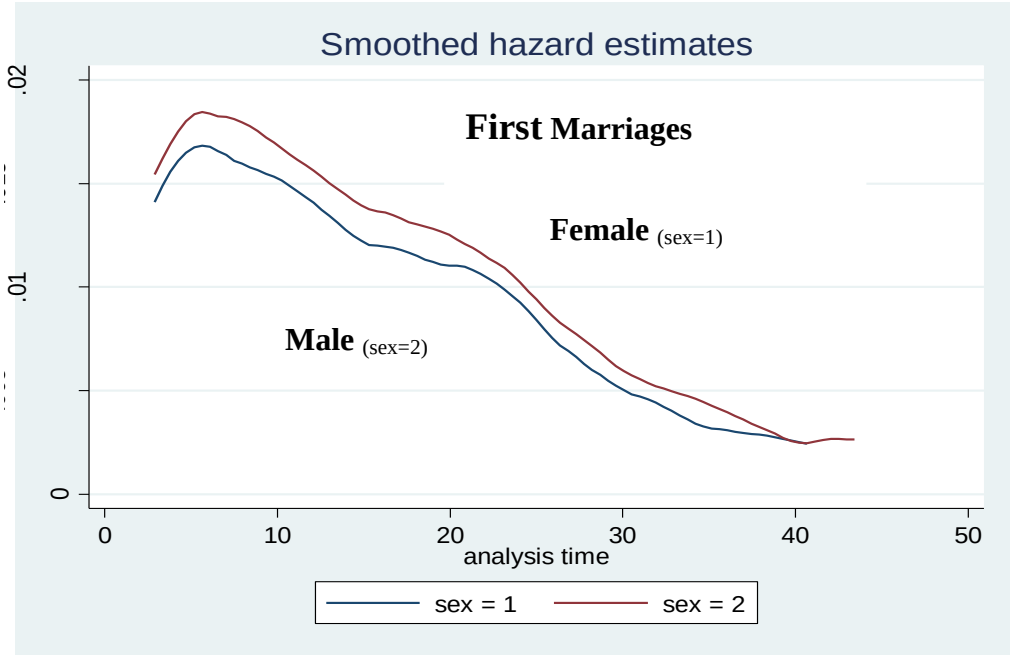
In order to eliminate other confounding effects, a number of sociodemographic variables consistently associated with the stability of marriages are included as control variables in the models (Balakrishnan et al. 1987; Clark & Crompton 2006; Bracher et al. 1993; Bramlett & Mosher 2002; Teachman 1986, 2008; Wineberg 1991, 1992). The coding of control variables is seen in Table 4.3.

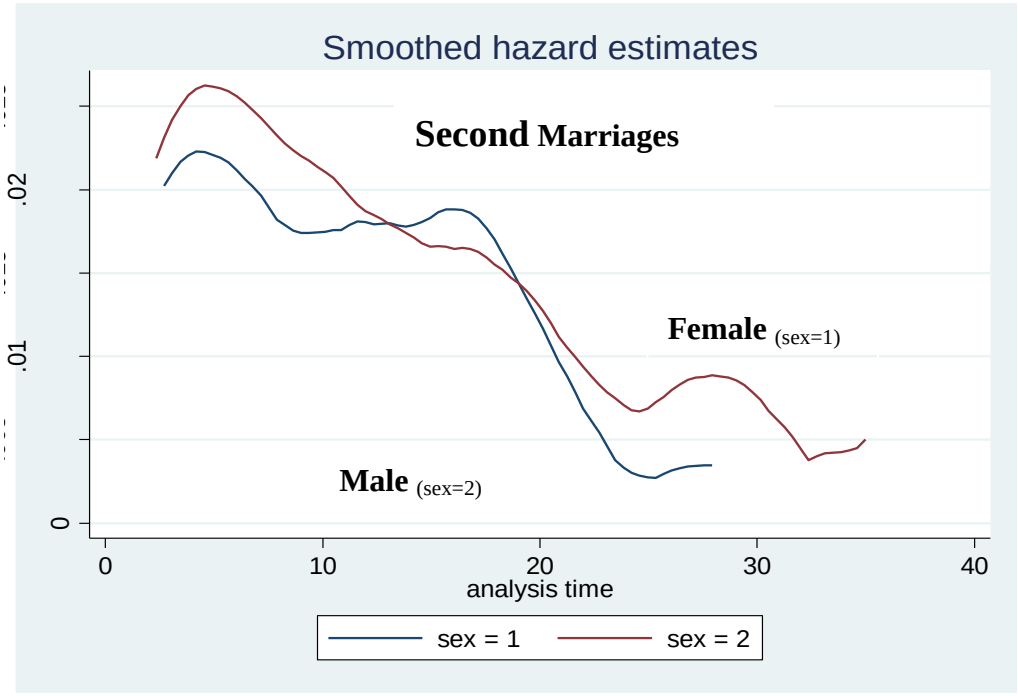
It is noteworthy to point out the residence measure. This measure includes four categories, census metropolitan areas (CMA), census agglomerations (CA) and two rural categories (i.e., rural and remote rural). Rural Canada is measured by the indictor of the Metropolitan Influenced Zone (MIZ) (Rambeau & Todd 2000). The MIZ is based on the share of the workforce that commutes to any CMA or CA. Rural area refers to strong MIZ (30% to 50% percentage of share of the workforce commuting to any CMA or CA) and moderate MIZ (5% to 30%); and remote rural area include weak (less than 5%) and no MIZ (Rambeau & Todd 2000).

Table 4.3 Coding for explanatory variables used in the analysis of the stability of marriage

Explanatory variable	Coding
Childbearing and cohabitation history	
Mutual biological birth	Coded 1 for a mutual biological child for both marital spouses, regardless of its timing, 0 otherwise
Premarital birth	Coded 1 if having premarital birth with other than the first spouse, 0 otherwise
Intermarital birth	Coded 1 if having an intermarital birth with other than marital spouses after the dissolution of first marriages and before second marriages, 0 otherwise
Cohabitation history before first marriage	Coded 0 for never cohabited , 1 for first spousal-only cohabitation, and 2 for other than first-spousal only cohabitation
Cohabitation history before second marriage	Coded 0 for never cohabited, 1 for cohabiting with both spouses, 2 for cohabiting with first spouse only, 3 for cohabiting with second spouse only, and 4 for cohabiting with other than first or second spouse
Age and cohort	
Age at first marriage	Coded 0 for 20 or less, 2 for 20-24.9, 3 for 25-29.9; 4 for 30 and more
Age at second marriage	Coded as 0 for 30 or less; 2 for 30-40; 3 for 40-50; 4 for 50 and more
Birth cohort	Coded 0 for pre-baby-boom (1937-1946), 1 for baby-boom (1947-1966), 2 for bust (1967-1979), and 3 for echo generation (1980-1985)
Family background	
Parental divorce	Coded 0 for no divorce and separation, 1 for parental divorce, and 2 for parental separation only
Mother's education	Coded 0 for Low (less than high school), 1 for Middle (high school and some Technical or University education), 2 for High (Post-secondary degree and more), 3 for unknown (missing values)
Respondents' Socio-Economic background	
Education	Coded 0 for Low (less than high school), 1 for Middle (High school and some Technical or university education), 2 for High (Post-secondary degree and more)
Work status since the start of career	Coded 0 for full-time only, 1 for combination of fulltime and part-time, and 2 for part-time only or never employed outside household
Religion (religious affiliation)	Coded 0 for no religion, 1 for Catholic, 2 for Protestant, and 3 for other
Religiosity (religious attendance)	Coded 0 for Not at all (never attended church in the past year), Middle (few times a year), and High (at least once a month or more)
Mother tongue and region	Coded 0 for Anglophones in rest of Canada, 1 for Francophones in Quebec, 2 for Anglophones and Allophones in Quebec, 3 for Francophones in rest of Canada, and 4 for Allophones in rest of Canada
Residence	Coded 0 for CMA, 1 for CA, 2 for Rural (Strong and moderate MIZ), and 3 for Remote rural (weak and no MIZ).

Figure 4.1 Smoothed hazard estimates of timing of the first and second marital dissolution, by gender, 2006





4.3.3 Analytical Strategy

To deal with right censoring (i.e., marital dissolution has not occurred), survival analysis is normally used. A log-logistic parametric model was employed in this study to assess the influence of risk factors. The log-logistic parametric model is preferred over other models (e.g., Exponential, Weilbull, and Gamma) for several reasons. First, the underlying distribution of the dependent variable, that is, the hazard of marital dissolution, approximates a log-logistic distribution (see Figure 4.1). For instance, justifying the application of the log-logistic model on the study of second divorce, Teachman (2008:299) noted that "this parametric form can fit most observed patterns of hazards for marital dissolution (i.e., either an inverted-U shape or a monotonically declining hazard rate)." Second, it yields the highest log-likelihood ratios for nested models and the lowest AIC[9], which is regarded as one rule for employing the appropriate type of parametric model (Stata 2003:212). Finally, the log-logistic model also parameterizes in accelerated failure-time (AFT) to directly estimate the time to marital dissolution.

The log-logistic parametric model takes the following form:

$$\text{Log } Ti=\beta_0+ \beta_1x_{11}+ \dots \beta_kx_{ik}+\sigma\varepsilon$$

Where T_i is the failure time (or censored time) of the i^{th} individual, β_0 and β_k are parameters to be estimated. As seen in the equation, the log-logistic AFT model is expressed as a linear function of the covariates, modeling the logarithm of the "survival time" (Log Ti). The model is "specified as a log-duration model (the dependent variable is the log of marital duration)" (Teachman 2008:299). Thus, the AFT metric "places an emphasis on log (time-to-failure), rather than risk (hazard) of failure" (Cleves et al. 2004; Stata 2003:211). The model was estimated by the STATA SE.10.0 and sampling weights were used in the statistical analysis given the complex sampling design of the survey.

[9] AIC (Akaike Information Criterion) is a statistic which is used for judging the best-fitting parametric model. The best-fitting model is the one with the lowest AIC value (Stata 2003:212).

Similar to the interpretation of odds ratio in logistic regression, time ratio coefficients obtained in STATA indicate how fast or slowly individuals belonging to a specific category experience marital dissolution, compared to individuals in a reference category. However, unlike odds ratio, time ratio greater than1.0 implies a lower risk and vice versa. A time ratio greater than 1.0 suggests a longer duration of survival time, i.e., a longer survival timing until marital dissolution. Put differently, it indicates a deceleration of timing of marital dissolution by a unit change in the covariate (i.e. a delay of timing in failure), which is "equivalently an increase in the expected waiting time for failure" (Stata 2003:202). In contrast, a time ratio less than 1.0 suggests an accelerated and earlier timing of marital dissolution. In summary, time ratio and odds ratio denote a similar meaning, as Teachman (2008:300) indicated that "a higher rate of marital disruption leads to a lower probability of a marriage surviving to any point in time and vice versa."

The analyses in this study proceeds in four stages. In stage one, the study presents life table estimates of the cumulative proportion of survival of first and second marriages. Stage two shows the descriptive percentage distribution of variables used in the models. The next stage provides the results from log-logistic (AFT) parametric models of duration dependence, detailing parameter estimates of marital dissolution by marital order and gender. Lastly, stage four examines risk factors by using the log-logistic parametric model with frailty[10].

Survival Analysis: Frailty Models

Frailty models are seen as a major advance in the study of time to event data (Aalen 1994; Stata 2003). In examining the effects of predictors in survival analysis, the risk of experiencing an event is a function of a series of observed risk variables (i.e., the predictive model for survival). However, not all risk variables are usually known or measurable. Occasionally, some important risk factors may be omitted in data collection or in modeling, due to a variety of reasons.

[10] "A frailty model is a survival model with unobservable heterogeneity, or frailty." (Stata 2003:217).

Unobservable individual variations in regression models are not necessarily regarded as a major concern, given the assumption of random variations. However, scholars have gradually recognized the importance of unobserved risk factors in survival analysis and event history analysis, where the timing of the event occurrence is critical (Aalen 1994; Cleves et al. 2004; Vaupel 1979). For example, individuals running a higher risk are more likely to experience the event early, and those remaining at risk are robust with a lower risk. In this sense, the decreased hazard over time is mainly due to the property of the "at risk group", consisting of an increasing proportion of less frail individuals. The unknown factor of the survival function is often termed frailty or the heterogeneity (Aalen 1994; Cleves et al. 2004; McGilchrist & Aisbett 1991).

Indeed, the concepts "individual heterogeneity" and "frailty effect" are of great interest of scholars in epidemics and demography, where those infected individuals are inclined to be the more susceptible (Aalen 1994). For instance, one source of heterogeneity in epidemics may be biological differences since the beginning (e.g. a genetic disposition for cancer). In terms of divorce, it is argued that the risk of divorce may be highly related to some characteristics that have not been measured (i.e., divorce-prone characteristics), such as the level of tolerance, communication skills, or knowledge of legal procedures regarding divorce (e.g., Bramlett & Mosher 2002; Hall & Zhao 1995; Stanley et al. 2006; Teachman 2008; Saint-Jacques et al. 2011).

In survival analysis, the overall model fit would be poor when important unknown risk factors are omitted, leading to somewhat biased estimates due to the misspecification (Cleves et al. 2004). For instance, in demographic studies on mortality on the basis of household data, the estimated models typically produce downward biases in parameter estimates and p-values, when the familial clustering is not taken into account (Garibotti et al. 2006).

As Kleinbaum and Klein (2005: 294) stated, "frailty is a random component designed to account for variability due to unobserved individual-level factors that is otherwise unaccounted for by the other predictors in the model." That is, frailty models are survival models with unobservable heterogeneity, or frailty (Stata 2003:217).

A hazard function with the frailty can be simply expressed as follows,

$$h_j(t|\alpha_j)= \alpha_j h(t) \quad j=1, 2, \ldots, n$$

As it shown in the above equation, "an individual's hazard function conditional on the frailty can be expressed as α_j multiplied by $h_j(t)$. The frailty α is an unobserved multiplicative effect of the hazard function, which is assumed to follow some distribution $g(\alpha)$, with $\alpha >0$ and the mean of $g(\alpha)$ is set to equal to 1 (Kleinbaum & Klein 2005; Stata 2003). The variance of $g(\alpha)$ is a parameter (theta) that is to be estimated from the data (Kleinbaum & Klein 2005: 295). Individuals with $\alpha >1$ have a decreased probability of survival compared to those of average frailty ($\alpha=1$). Similarly, $\alpha < 1$ indicates the increased probability of survival compared to those of average frailty. The distribution of the random effect of frailty usually takes on two forms in STATA 10.0, namely gamma and inverse Gaussian. Presumably, in some cases, it is possible for researchers to identify the mechanisms generating variations in frailty, which provides evidence for justifying the distribution assumptions. Generally, survival models with gamma-distributed frailty are widely used given the flexibility of gamma (Aalen 1994; Stata 2003).

It has been argued that frailty is a somewhat vague concept, and frailty models are often carried out under a set of quite arbitrary assumptions, such as the variance distribution (Aalen 1994; Cleves et al. 2004). Thus, what is the point of such analysis? As it mentioned before, this type of analysis can answer the question whether there is unobserved heterogeneity, causing greater variability in survival times than might be expected (Kleinbaum & Klein 2005: 294). It is also of the great interest to scholars who want to emphasize frailty explanations in survival timing (Aalen 1994:234). This could determine and clarify the causal mechanism in the modeling. For instance, in some cases (e.g., dying from a certain cancer in early stage), the higher risk of experiencing the event is mainly associated with the unmeasured characteristics, instead of the effect of the predictors (Aalen 1994). Lastly, statistical analyses that include frailty usually produce parametric models which fit the data better. Also, survival models with frailty often

generate unbiased estimates of the time ratio and increase the robustness of parameter estimates (Blossfeld & Gozt 2002; Cleves et al. 2004; Gagnon et al. 2009; Stata 2003).

Despite the advantages of accounting for extra variability from the unobserved factors through using frailty models, scholars have increasingly recognized that "not much faith should be invested in the details" (e.g., Aalen 1994:234; Cleves et al. 2004). To some extent, it is a philosophical question to know how far one may attribute the variations in dependent variables to a frailty variable, which is probably unknown or un-measurable (Aalen 1994:242; Cleves et al. 2004). As Aalen (1994:242) asserted, "the true heterogeneity between individuals is likely to be much more complex than can be expressed by any simple mathematical model". However, notwithstanding the imperfect models for dealing with frailty, with their arbitrary assumptions, the frailty issue cannot be ignored in survival analysis (Aalen 1994; Cleves et al. 2004; Gagnon et al. 2009; Garibotti et al. 2006; Vaupel et al.1979).

4.4 Results

4.4.1 Descriptive Statistics

Table 4.4 shows the cumulative proportion of first and second marriages surviving at various durations by gender, based on life table estimates (see Appendix Figure 4.2 for Kaplan-Meier survival estimates of marital dissolution). Clearly, second marriages have a higher risk of dissolving than first marriages. For instance, after five years of first marriages, 91% of men's and 90.3% of women's first marriages remain intact, whereas the corresponding figures for second marriages are 86.1% and 84.3%, respectively. After seven years, the percentages of survival of first marriages drop to 87.5 % for men and 84.5% for women, as well as, 81.0% for men and 79.2% for women in second marriages. This pattern is consistent with prior studies (Bumpass & Sweet 1989; McCarthy 1978; Teachman 1986). It should be noted that life table analysis traces the probability of divorce by timing, thus it is not represent the experience of any specific cohort.

Table 4.4 Life table estimates of cumulative proportion of survival of first and second marriages, by gender

	First Marriages		Second Marriages	
Year	**Men**	**Women**	**Men**	**Women**
1	0.990	0.985	0.986	0.980
2	0.972	0.965	0.955	0.946
3	0.948	0.945	0.927	0.905
5	0.910	0.903	0.861	0.843
7	0.875	0.862	0.810	0.792
10	0.821	0.807	0.748	0.728
15	0.746	0.734	0.658	0.634
20	0.695	0.671	0.570	0.568
25	0.651	0.619	0.545	0.538
30	0.620	0.591	0.502	0.494
Sample Size (N)	5717	7715	720	928

Table 4.5 presents descriptive statistics on percentage distribution for variables used in the multivariate models. Column 1 and 2 display the descriptive statistics for men and women who were at the risk of dissolution of their first marriages, while column 3 and 4 show the corresponding figures for the second marriages. The associations between the majority of the explanatory variables and gender are statistically significant (χ^2 tests not shown, $p<0.05$), with the exception of mother's educational attainment, language and region, and residence. For instance, about 78% of men and 81% of women reported having a mutual biological childbirth within first marriages. About 10% of men and women had a premarital birth where the birth occurred before the first marriage and did not have a biological relationship with both marital partners. In line with findings on gender differentials in the entry into marriage (Goldscheider &Waite1986; Statistics Canada 2002), women are more likely to marry younger, have part-time working careers, and attend church services when compared with men in first marriages.

Regarding cohabitation history, nearly 22% of men and 25% of women experienced cohabitation prior to the first marriage. Consistent with the literature (Jones 2010; Teachman 2003; Wu & Balakrishnan 1995), the most common type of cohabitation prior to the first marriage was future spousal-only cohabitation: about three quarters of

cohabitation prior to the first marriage was cohabiting with first spouse only. How comparable are cohabitation histories before first marriages? It appears that the results are consistent with similar studies. The percentage of cohabitation prior to first marriages in the literature varies by analytical samples. A Canadian study using the GSS-1990, for example, reported 14% of couples cohabited prior to the first marriage (Hall & Zhao 1995). On the other hand, an American study using 1995 National Survey of Family Growth (NSFG) showed the figure was 38.1% for women aged 15 to 44 and 80% of those cohabitations were husband-only (Teachman 2003). Given that cohabitation only started to spread in Canada since the 1970s, those percentages fall into a reasonable range. Le Bourdais et al. (2000), for example, showed that only 6% of Canadian women in 1936-1945 birth cohorts started a first union with cohabitation, while the figure rose to 52% for women in 1966-1975.

Column 3 and 4 provide the percentage distribution for exposure to the risk of dissolving second marriages. The association between the key explanatory variables and gender is significant (χ^2 tests; $p<.05$). In contrast to first marriages, men are more likely than women to report mutual biological birth in second marriage (39% and 34%, respectively). Obviously, gendered biological differences in remarriage reduce the odds of having births among women. As expected, the likelihood of entering into a second marriage is lower for those women who are older, have higher educational attainment, and who had full-time working careers since starting work.

With respect to cohabitation history, approximately 47% of men and 53% of women experienced cohabitation before the second marriage. The common types of cohabitation history for both sexes include second spousal-only cohabitation (23%) as well as cohabitation only with both spouses (13%). Again, how representative is this percentage distribution? An American study based on a survey conducted in 2002 by Teachman (2008:300), for example, reported that 85% of American women aged 15 to 44 experienced cohabitation before their second marriages, about 37% had second-spousal only cohabitation, and 23% had cohabited with both spouses. Given the limited age range (i.e., 15-44) in Teachman's analysis, the results in this study are comparable, considering the analytical groups are aged 20-60 in the present study.

Table 4.5 Percentage distributions for variables used in the analysis of first and second marital stability, by gender

	First Marriages		Second Marriages	
Variables	**Men**	**Women**	**Men**	**Women**
Sample size (N)	**6508**	**7052**	**822**	**853**
Mutual biological birth				
Yes (no)	0.779	0.807	0.389	0.338
Premarital birth				
Yes (no)	0.104	0.112		
Intermarial birth				
Yes (no)			0.120	0.148
Cohabitation history				
Never cohabited (REF)	0.777	0.754		
Cohabited with first spouse only	0.175	0.192		
Cohabited with other than first spouse	0.049	0.055		
Cohabitation History				
Never cohabited (REF)			0.535	0.470
Cohabited with both spouses			0.131	0.142
Cohabited with first spouse only			0.028	0.025
Cohabited with second spouse only			0.199	0.258
Cohabitated with other than first or second spouse			0.107	0.106
Age at start of first marriage				
20 or less (REF)	0.052	0.197		
20-24	0.412	0.463		
25-29	0.343	0.232		
30+	0.193	0.108		
Age at start of second marriage				
30 or less (REF)			0.131	0.224
30-39			0.439	0.464
40-49			0.304	0.241
50+			0.126	0.072
Birth cohort				
Pre-baby boom (REF)	0.196	0.196	0.259	0.236
Baby-boom	0.565	0.545	0.676	0.661
Bust	0.222	0.235	0.064	0.103
Echo	0.017	0.024		
Parental divorce				
No (REF)	0.885	0.865	0.838	0.821
Divorce	0.086	0.098	0.120	0.126
Separated only	0.029	0.037	0.041	0.053
Mother's education				
Less than high school (REF)	0.390	0.420	0.351	0.433
High school or some university	0.307	0.287	0.329	0.303
Post-secondary or more	0.159	0.180	0.157	0.161
Not-known	0.145	0.114	0.162	0.102
Respondents' education				
Low (REF)	0.145	0.137	0.153	0.152
High school or some university	0.276	0.281	0.269	0.296
Post-secondary or more	0.579	0.582	0.578	0.552
Work Staus since the start of careers				
Full-time only (REF)	0.786	0.488	0.793	0.540
Full-time and part-time	0.168	0.404	0.168	0.376
Part-time only or not employed	0.046	0.108	0.039	0.083
Religion				
No religion (REF)	0.230	0.181	0.241	0.223
Catholic	0.366	0.394	0.290	0.292
Protestant	0.313	0.345	0.404	0.443
Others	0.091	0.080	0.066	0.042
Religiosity				
Not at all (REF)	0.427	0.367	0.505	0.435
Middle	0.303	0.303	0.288	0.282
High	0.270	0.330	0.207	0.283
Mother tongue & region				
Anglophones in rest of Canada (REF)	0.571	0.570	0.668	0.725
Francophones in Quebec	0.159	0.164	0.112	0.085
Allophones in Quebec (Anglophones included)	0.041	0.037	0.035	0.033
Francophones in rest of Canada	0.038	0.046	0.048	0.041
Allophones in rest of Canada	0.191	0.183	0.137	0.116
Residence				
CMA (REF)	0.644	0.647	0.619	0.591
CA	0.149	0.154	0.169	0.191
Rural (Strong or moderate MIZ)	0.134	0.129	0.144	0.148
Remote rural (Weak or No MIZ)	0.072	0.070	0.068	0.070

Note: Data are weighted. All variables are dummy-coded: 0=no,1=yes, unless otherwise indicated. Reference categories are in parentheses or indicated by (REF).

4.4.2 Log-Logistic Parametric Model

Table 4.6 presents the multivariate results of the time ratio parameter estimates from log-logistic parametric models. Model 1 and Model 2 show the time ratios for first marriage stability, while model 3 and 4 present time ratios for second marriage stability. As mentioned before, the time ratio indicates the effect of covariates on the odds of surviving beyond a given marital duration in the AFT model. Recall that a time ratio greater than 1.0 suggests a delayed timing of marital dissolution and a lower risk of dissolving a marriage. Conversely, a time ratio less than 1.0 indicates an earlier and faster timing of marital dissolution. At first glance, the noticeable difference in terms of the determinants between the first and the second marital dissolution is that the majority of variables that are statistically significant in predicting the risk of first marital dissolution fail to retain their statistical significance in second marriages. This is especially the case for men. The conspicuous contrast probably arises from two reasons: unobserved heterogeneity due to sample selectivity (Teachman 2008) and the relatively smaller analytical sample size. As Teachman (2008:303) noted, "individuals in second marriages are selective with respect to unmeasured characteristics positively linked to marital disruption". The hypothesis of unobserved heterogeneity is further tested in the next section on parametric models with frailty.

The summary statistics at the bottom of Table 4.6 indicate good model fits for each set of models. The Gamma parameters[11] of four models are significantly smaller than 1.0, suggesting non-monotonic distribution of the hazards of dissolution of the first and second marriage. This corroborates the appropriateness of employing the log-logistic parametric model. The Wald chi-square tests (not shown in the Table 4.6 but with $p<0.001$ significant levels for all the models) are significant, suggesting that the set of explanatory variables are good for predicting the timing (or inversely the hazard) of dissolution of first and second marriage.

[11] The gamma parameter in the log-logistic distribution indicates the shape of baseline hazard, which can be derived from the log-logistic hazard equation $h(t) = (p\lambda t^{p-1}) /(1+ \lambda t^{p})$ with $p=1/\gamma$. The gamma is a positive value. If gamma is greater than or equal to 1.0, it suggests that the baseline hazard decreases monotonically, while if gamma is smaller than 1.0, it indicates that the baseline hazard increases first, then declines over time (Stata 2003:204).

Table 4.6 Time Ratios from log-logistic parametric models predicting survival of first and second marriages, by gender

	First Marriages		Second Marriages	
Variables	**Men**	**Women**	**Men**	**Women**
Mutual biological birth				
Yes	3.766 ***	3.745 ***	1.316	1.646 **
Premarital birth				
Yes	0.653 **	0.539 ***		
Intermarial birth				
Yes			0.773	0.563 **
Cohabitation history before first marriage				
Cohabited with first spouse only	0.476 ***	0.592 ***		
Cohabited with other than first spouse	0.730	0.661 ***		
Cohabitation history before second marriage				
Cohabited with both spouses			0.458 **	0.596 *
Cohabited with first spouse only			0.434	1.041
Cohabited with second spouse only			0.542 **	1.048
Cohabitated with other than first or second spouse			0.529 *	0.812
Age at start of first marriage				
20-24	1.868 ***	1.476 ***		
25-29	2.408 ***	1.952 ***		
30+	2.811 ***	2.207 ***		
Age at start of second marriage				
30-39			1.032	1.634 **
40-49			1.182	1.522
50+			1.276	1.690
Birth cohort				
Baby-boom	0.693 ***	0.616 ***	0.898	0.689 *
Bust	0.736 **	0.557 ***	3.612	0.577
Echo	0.768	0.545 **		
Parental divorce				
Divorce	0.701 ***	0.740 ***	0.789	0.522 ***
Separated only	0.676 **	0.580 ***	1.106	1.170
Mother's Education				
High school or some university	0.969	1.009	0.943	1.420
Post-secondary or more	0.901	0.975	0.832	1.294
Not-known	0.825 *	0.999	0.760	1.944 **
Respondent's Education				
High school or some university	0.905	0.781 **	1.278	1.006
Post-secondary or more	1.327	0.788 **	1.414	0.730
Work Status since career start				
Full-time and part-time	0.905	1.208 ***	0.631 *	1.196
Part-time only or not employed	1.316	1.486 ***	0.850	1.416
Religion				
Catholic	0.896	1.233 **	1.414	1.333
Protestant	0.838	1.123	1.220	0.893
Others	1.016	1.588 **	1.016	0.824
Religiosity				
Middle	1.229 **	1.265 ***	1.464	0.911
High	1.982 ***	1.517 ***	0.849	0.971
Mother tongue and region				
Francophones in Quebec	1.026	1.043	0.708	0.645
Allophones in Quebec (Anglophone indluded)	0.999	0.878	0.554	1.306
Francophones in rest of Canada	0.869	1.296	0.486 *	0.974
Allophones in rest of Canada	1.173	1.113	0.762	1.179
Residence				
CA	1.086	0.935	1.199	1.059
Rural	1.097	1.328 ***	1.327	1.734 **
Remote rural	1.103	1.179	1.027	0.876
Gamma	0.882	0.872	0.992	0.900
Log-logistic γ (/ln_gam)	-0.125 ***	-0.137 ***	-0.114	-0.105 *
Number of observations	5568	7531	699	894
Number of failures	1478	1830	167	201
Log pseudolikelihood	-4863.014	-5066.230	-559.578	-580.890

Statistical significance: *p<0.05, **p<0.01, ***p<0.001;

Data are weighted. **Time ratio** for reference group is 1. **Reference groups**: no childbearing, never cohabited, aged 20 or less for the first marriage, aged 30 or less for the second marriage, pre-baby-boom cohort, no parental divorce, less than high school for mother's and respondent's education, full-time work status since career start, no religion, no religiosity, Anglophones in rest of Canada, and CMA residence.

4.4.2.1 Childbearing

Turning first to the effect of childbearing on the stability of first and second marriages, the results show that the coefficients are significant, with the exception of men's second marriage. The effect of the parameter estimates are best illustrated in Figure 4.2, which shows the time ratios by gender and by marital order. As anticipated, there is a stabilizing effect of mutual childbearing, signalling a longer survival of marriages. In contrast, premarital or intermarital birth is associated with a higher risk of marriage dissolution.

Notably, a mutual birth substantially and significantly delayed the timing of first marital dissolution for both sexes by about three-fold, compared to those first marriages without a mutual biological birth (*TR*=3.7, $p<0.001$). This substantive effect is in line with findings by Morgan and Rindfuss (1985:1069), who found that "marital conceptions provide the greatest protection against marital disruption". Next, the effect of mutual biological birth is considerably smaller in the model of second marriages than of first marriages. For men, the time ratios drop from 3.77 in first marriages to 1.31 in second marriages. More importantly, the coefficient is not statistically significant in the model of men's second marriages.

Non-biological and births occurred before marriages are usually associated with faster timing of subsequent martial dissolution, with the time ratios less than 1.00. Premarital birth (*TR=0.539, p<0.001)* significantly increases the risk of marital disruption by nearly two-fold among women. The corresponding parameter for men is 35% (*TR*=0.653, $p<0.005$). It is noteworthy that the coefficient of intermarial birth for men is not significant, whereas it accelerates the timing of women's second marital dissolution by about 45% (*TR*=0.563, $p<0.005$).

Figure 4.2 Time ratios for the stability of first and second marriages, by childbearing and gender

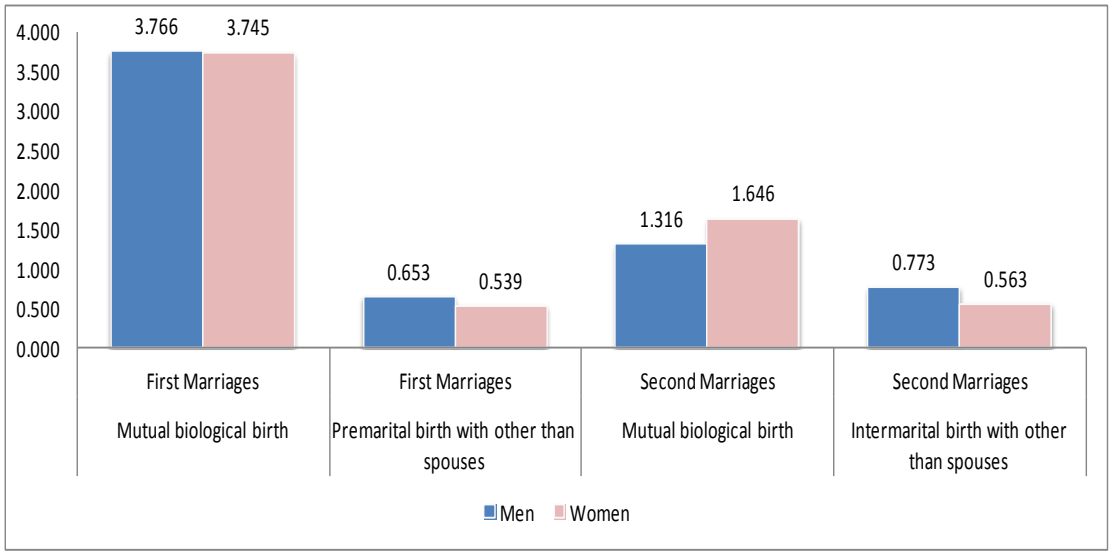
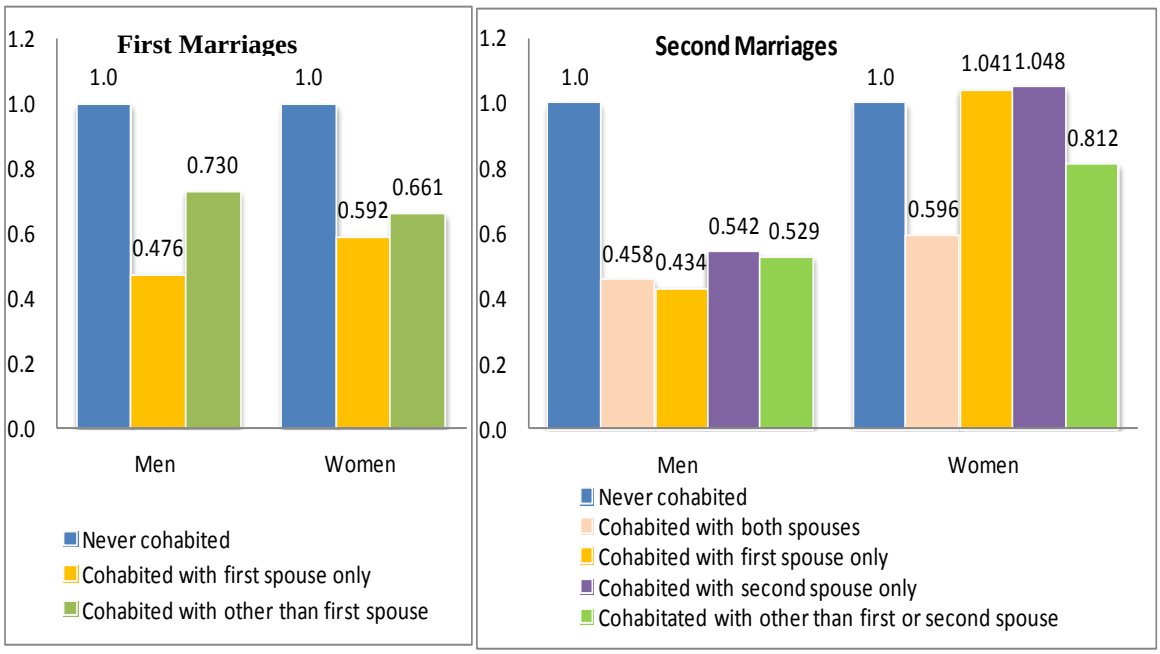


Figure 4.3 Time ratios for the stability of first and second marriages, by cohabitation history and gender



4.4.2.2 Cohabitation History

As seen in Figure 4.3, previous cohabiting partnerships are generally associated with increased risks of marital dissolution, irrespective of gender and marital order. This finding is consistent with prior research on the destabilizing "cohabitation effect" on subsequent marriages (Hall & Zhao 1995; Teachman 2008). The effect of cohabitation history exhibits similar patterns in the stability of first marriages among men and women. As hypothesized, "spousal-only cohabitation" is associated with an even faster timing of first marital dissolution relative to other cohabitations, particularly for men. It is also interesting to note that cohabitation with other than first spouse is not significantly associated with risks of first marital dissolution for men, but it is for women.

The effect of cohabitation history in the stability of second marriage, as seen in Figure 4.3, differs by gender. For men, cohabitation history, regardless of types, was associated with an earlier timing of second marital dissolution by nearly 50%, compared to no cohabitation. As for women, the results fall in line with Teachman's (2008:302) findings: no general association exists. Specifically, Teachman (2008:301) found that "only women who cohabited with both their first and second husbands are more likely to end their second marriages than other women." The only significant category for both sexes is the first-and-second spouse cohabitation: it accelerates the earlier timing of second marital dissolution by about 50% (TR=0.476 for men and TR=0.592 for women, p<0.001). Taken together, the effect of cohabitation history on the stability of marriages appears to be stronger for men than for women.

4.4.2.3 Control Variables

Turning to the control variables, several findings are worth noting. In terms of stability of the first marriage, the results show that age at first marriage and religiosity had positive and significant effects on marital stability. In accordance with prior research (e.g., Becker et al. 1977; Morgan & Rindfuss 1985), age at marriage had a substantial impact, with sizable parameters. For example, being married at the age of 25-29 significantly delayed timing of first marital dissolution by about 140% for men and 100% for women, compared to being married before age 20. A higher level of religiosity is related to decreased hazard of first marital dissolution, for both men and women.

In addition, younger birth cohort and parental divorce are associated with significantly higher hazards of first marital dissolution. For example, the younger birth cohort experienced about 40% earlier timing of dissolution, compared to their older counterpart. As expected, parental divorce accelerated the timing of first marital dissolution by about 30% for both sexes, when compared with no parental divorce. Unexpectedly, parental separation is associated with even faster timing of first marital dissolution for both sexes relative to parental divorce. Again, this difference is more pronounced for women, suggesting that the influence of parental separation is stronger for women than for men, although the impact of parental divorce is similar.

The effect of the other three social background variables – educational attainment, work status since the start of career, and religious affiliation – are only significant in the model of women. Women's higher educational attainment and full-time work status since the start of career are associated with an earlier timing of first marital dissolution. When compared to women with no religion, Catholic women and those from other religions experienced a delayed timing of first marital dissolution. Lastly, all other things being equal, the control variables – mother's education, residence, language and region – are generally not significantly associated with the risk of marital dissolution, for both men and women.

As it is mentioned before, there is an absence of significance of the parameter estimates in the risk of second marital disruption in comparison to the first marriages. This is especially the case for the model of men's risks of second marriages. For men, other than cohabitation history, only two variables have significant effects, including work careers, mother tongue and region ($p< .05$). Men without full-time work careers and who were Francophones in the rest of Canada have significantly higher risks of second marital dissolution, when compared to their counterparts.

In contrast, several variables retained their significance in predicting the stability of women's second marriages, including childbearing, cohabitation history, age at second marriage, parental divorce, mother's education, and residence. Age at second marriage had a positive and significant effect. Interestingly, the effect of parental divorce is only significant for women, with an even stronger impact than for the first marriage (OR=0.52 $p<.001$). Lastly, women with highly educated mothers had lower hazards of dissolving their second marriages, though the effect is not statistically significant.

4.4.3 Log-logistic Parametric Model with Frailty

Many scholars have been concerned about the influence of unobserved characteristics in marital breakdown, such as relationship skills, divorce-prone personalities, and risk tolerance of divorce (Bramlett & Mosher 2002; Light & Ahn 2010; Sweeney 2010:674). This influence of unobserved heterogeneity is especially problematic for the dissolution of second marriages (Coleman et al. 2000; Teachman 2008). Although studies often control for multiple factors that bear on the risk of union dissolution, such as family-of-origin and socioeconomic prospects, they generally cannot rule out the possibility of a confounding effect from unmeasured characteristics of individuals (e.g., Axinn & Thornton 1992; Blossfeld & Gozt 2002; Cleves et al. 2002; Hall & Zhao 1995; Phillips & Sweeney 2005; Stata 2003). To fill in the gap of this literature, frailty models were undertaken to provide empirical tests for the argument regarding unmeasured divorce-prone characteristics, as well as, to produce statistically robust parameter estimates (e.g., Cleves et al. 2002).

Table 4.7 Time Ratios from log-logistic parametric models with frailty predicting survival of first and second marriages, by gender

	First Marriages		Second Marriages	
Variables	**Men**	**Women**	**Men**	**Women**
Mutual biological birth				
Yes	4.431 ***	4.622 ***	1.664 *	1.847 ***
Premarital birth				
Yes	0.560 ***	0.498 ***		
Intermarial birth				
Yes			0.795	0.624 *
Cohabitation history before first marriage				
Cohabited with first spouse only	0.536 ***	0.604 ***		
Cohabited with other than first spouse	0.782	0.751 *		
Cohabitation history before second marriage				
Cohabited with both spouses			0.499 *	0.619 ^
Cohabited with first spouse only			0.535	0.898
Cohabited with second spouse only			0.776	1.082
Cohabitated with other than first or second			0.460 *	0.838
Age at start of first marriage				
20-24	1.741 ***	1.492 ***		
25-29	2.211 ***	1.822 ***		
30+	2.469 ***	1.888 ***		
Age at start of second marriage				
30-39			1.010	1.824 *
40-49			1.214	1.555
50+			1.353	1.852
Birth cohort				
Baby-boom	0.728 ***	0.686 ***	1.087	0.732
Bust	0.790 *	0.64 ***	2.943	0.600
Echo	0.987	0.618 *		
Parental divorce				
Divorce	0.811 *	0.777 ***	0.898	0.542 **
Separated only	0.757 ^	0.618 ***	1.979	0.985
Mother's Education				
High school or some university	0.999	1.027	1.116	1.429 ^
Post-secondary or more	0.962	0.947	0.967	1.304
Not-known	0.839 ^	0.983	1.062	1.754
Respondent's Education				
High school or some university	0.932	0.825 ^	1.423	1.035
Post-secondary or more	1.003	0.894	1.984 *	0.784
Work Status since career start				
Full-time and part-time	0.927	1.179 ***	0.689 *	1.158
Part-time only or not employed	1.361	1.319 *	0.496	1.291
Religion				
Catholic	0.938	1.128	1.493	1.353
Protestant	0.892	1.039	1.384	0.844
Others	1.051	1.445 ***	1.265	0.628
Religiosity				
Middle	1.234 *	1.255 ***	1.420	0.973
High	1.890 ***	1.522 ***	0.852	1.057
Mother tongue and region				
Francophones in Quebec	1.045	1.100	0.818	0.703
Allophones in Quebec (Anglophones included)	0.925	0.850	0.459	0.700
Francophones in rest of Canada	0.856	1.364 *	0.813 *	0.927
Allophones in rest of Canada	1.171	1.096	0.541	1.206
Residence				
CA	1.052	0.929	1.236	1.022
Rural	1.128	1.267 ***	1.440	1.750 *
Remote rural	1.008	1.128	1.502	0.951
Gamma	0.688	0.635	0.521	0.730
Log-logistic γ (/ln_gam)	-0.374 ***	-0.453 ***	-0.653 ***	-0.310
Number of observations	5568	7531	699	894
Number of failures	1478	1830	167	201
Log pseudolikelihood	-4500.611	-5379.486	-516.800	-615.300
Frailty (theta)	**1.77(0.36) *** **	**2.062(0.264) *** **	**4.519(1.44) *** **	**1.57(1.78)**

Statistical significance: ^p<0.10, *p<0.05, **p<0.01, ***p<0.001;
Data are weighted. **Time ratio** for reference group is 1. **Reference groups**: no childbearing, never cohabited, aged 20 or less for the first marriage, aged 30 or less for the second marriage, pre-baby-boom cohort, no parental divorce, less than high school for mother's and respondent's education, full-time work status since career start, no religion, no religiosity, Anglophones in rest of Canada, and CMA residence.

Table 4.7 presents the estimated parameters from parametric models with frailty. The overall model fit as given by the Wald chi-square test (not shown here), shows that the overall model is significant ($p< 0.001$). The difference of chi-square statistics between the parametric model and the parametric model with frailty indicate a significant model improvement, after controlling for the unobserved characteristics, with an exception of the model of women's second marriages. As shown at the bottom of Table 4.7, the insignificant theta, the frailty parameter, suggests that the variances in the risk of women's second marital dissolution are properly captured by those explanatory variables. However, three significant theta parameters for models for men and for women's model of first marriages indicate that unmeasured variables attribute significantly to the variations in the risks of marital dissolutions in those models.

In addition to the significance test of random effect of Gamma (theta), the results in Table 4.7 show the changes in risk coefficients, when controlling for the unobserved heterogeneity. Unobserved characteristics (e.g., divorce-prone characteristics), may be associated with the timing of divorce, and the exclusion of these variables form the models potentially leads to downward biased estimates for other factors, such as childbearing. Compared to the results in previous models without frailty terms, the results show a remarkable increase in the estimated coefficients (e.g., from OR=3.75 to 4.62 in women's model of first marriages).

Moreover, despite the changes in coefficient magnitudes, this method mostly does not change the results on tests of statistical significance. The only noteworthy exception is the coefficient for mutual biologically marital childbearing in the model of men's second marriages. This coefficient shifts from insignificant to significant after adding the frailty term ($p<0.05$). However, the effect of this coefficient in women's model is much stronger (OR=1.847, $p<.001$). Methodologically speaking, the interpretation of statistical significance should take into account several influencing factors, such as sample size, besides the significance level itself. Compared to the results that control for frailty, the less refined methods without frailty produce slightly lower parameter estimates and overall similar levels of statistical significance. This is consistent with the study of Eloundou-Enyegue and Williams (2006), who examined the effect of unobserved measures on schooling attainment of children in sub-Saharan Africa by adding frailty

terms. As Eloundou-Enyegue and Williams (2006:40) noted, "the failure to use this methodologically superior formulation would lead to underestimates of the magnitude of the family-size effect, even if it does not change the substantive conclusions about statistical significance."

Taken together, models with frailty provide evidence regarding two important issues in the risk of marital dissolution. Firstly, more variables should be included in the models of first marriages for both sexes and men's second marriages, given the significance of unobserved heterogeneity. Secondly, it appears that the less refined analyses suppress the effects of predicators in the models. Overall, the general conclusions on the effects of determinants from both types of models are consistent.

4.5 Discussion

Life course factors, such as cohabitation history, have been largely neglected in the literature of instability of marriages, especially for the second marriage. Despite the substantial understanding that has been gained regarding transitions into and out of cohabitation and marriage, our knowledge on the stability of men's and women's first and second marriages is limited, particularly for men. Many questions remain unanswered, and thereby impede our knowledge on the stability of marital unions, especially remarriage. For example, 1) which factors have consistent impacts on marital stability, irrespective of marital order and gender? 2) do births play substantive roles in the stability of second marriages similar to their roles in first marriages? and 3) in particular, is cohabitation history associated with the increased risk of second marital dissolution?

By using the 2006 General Social Survey on family transitions, this study examined the risk factors associated with the instability of the first and the second marriage among men and women. More specifically, four sets of hypotheses were tested in this analysis: 1) the marital-specific capital hypothesis, 2) the premarital or intermarial birth hypothesis, 3) the cohabitation effect hypothesis, and 4) the spousal-only cohabitation effect hypothesis. This study expands our insights on marital stability by extending the analysis to second

marriages, by comparing men and women, and by incorporating life-course factors, such as childbearing and cohabitation history.

The empirical results in this study yield several interesting findings, providing overall strong support for the hypotheses. First, the results support the general "marital specific capital" hypothesis: mutual biological children functioned as "marital specific capital" in the first marriage and women's second marriages, reducing the risk of marital dissolution. However, the effect was not statistically significant in men's second marriage. This stabilizing effect of mutual birth on women's marriages concurs with findings from prior studies (Aguirrie & Parr 1982; Erlangsen & Anderson 2001; Teachman 2003; Wineberg 1991, 1992). The persistent protective effect for women may be attributable to the higher benefits of staying in, as well as, higher costs of exiting second marriages, given that women endure disproportionally negative consequences in divorce and they are subject to a more adverse repartnering market (Poortman & Lyngstad 2007; Wu & Schimmele 2005). Wineberg (1992), for example, argued that women with a mutual biological birth may be less inclined to dissolve the second marriage "for the sake of children", and perhaps, the fact of having mutual children indeed signals women's stronger confidence in the future of their second marriage. Similar mechanisms may also be applied to men's second marriage stability with respect to mutual biological births.

However, contrary to findings from some other studies (e.g., Erlangsen & Anderson 2001), there was little evidence of a substantively stronger effect of a mutual birth for women than for men. In fact, the analyses revealed a substantial and equal effect for both sexes. The equally considerable effect of a mutual birth in stability of men's first marriages falls in line with findings from Kamijin and Poortman (2006:201), who reported a negative association between the divorce decision and the presence of children in men's first marriages. They found that the presence of children appeared to "affect men's decision to (not) divorce more strongly than women's decision". They attributed this finding to the stronger influence of the social mechanism than the economic mechanism associated with children. They argued that the fear of losing social contacts with children may suppress men's divorce decision more significantly than is the case for women.

Second, evidence supports the hypotheses that premarital or intermarial births, which measured non-mutual biological births prior to marriage, elevated marital dissolution, regardless of marital order, for both men and women. The effects were strong and statistically significant, with the exception of intermarial births in men's second marriages. Consistent with the logic of social exchange theory, premarital and intermarial births obviously fail to serve as "marital specific capital" for cementing the relationship (Balakrishnan et al. 1987; Becker et al. 1977; Berrington & Diamond 1999). Alternatively, non-mutual birth exposes marriage to a greater risk of dissolution, owing primarily to the "incomplete institution" associated with step children (Cherlin 1978; Coleman et al. 2000; Falke & Larson 2007; Ganong et al. 2006; Goldscheider & Sassler 2006).

Why does the effect of childbearing on the risk of second marital dissolution differ between men and women? Put differently, why does the effect of childbearing neither fortify nor undermine the stability of men's second marriages? Teachman's (2008) study reports the same finding, showing that the prior fertility of a husband – whether measured by number of children from prior relationships or whether the husband's children lived with the family – was not a significant factor in predicting the risk of second divorce. Conversely, this is the case for women. Perhaps, the gendered life course and parenting play important roles (Heaton & Black 1999; Hofferth & Anderson, 2003; Teachman 2008). Notwithstanding the lower likelihoods of child custody by men than women, men with child custody are inclined to be perceived as family-oriented and "marriageable" (Goldscheider & Sassler 2006; Poortman & Lyngstad 2007; Stewart et al. 2003). In addition, the negative impact of prior fertility on men's marital stability is attenuated by gendered parenting. For instance, parenting for women is more likely to be defined as caring, responding, protecting, holding and comforting, beyond the children's adolescence, which in turn impose higher barriers for successive repartnering among women than men (e.g., Coleman et al. 2000; Thompson & Walker 1989; Poortman & Lyngstad 2007). Thus, as Teachman (2008:303) asserted, "Apparently, gender sets the context within which life course patterns are evaluated and subsequently exerts influence on second marriages".

The impact of childbirth may also reflect the conditional notion of "plastic sexuality" intimate relationships. It is termed by Giddens (1992), referring to sexuality that is largely freed from reproduction and other restraints, institutional, normative, and patriarchal. That is, intimate sexual relationships function as "a medium or means for self-expression and self-actualization" and are "organized and sustained primarily from within the relationship itself" (Hall 1996:3). If an intimate relationship has undergone the process of "plastic sexuality", then "a major implication of this is that childbearing is not intrinsic to pure relationship" (Hall 1996:3). As a result, births will no longer anchor or undermine the stability of relationships. The results of this analysis partially support the avant-garde statement on "plastic sexuality" of Giddens (1992). From the perspective of the role of childbearing, only men appear to partially achieve "plastic sexuality" in second marriages, given the lack of significance in intermarital birth. However, the effect of mutual biological birth is significant for men's and women's first-and-second marriages, when advanced models were undertaken.

Third, the "cohabitation effect" hypotheses also received strong empirical support. That is, cohabitations, regardless of previous forms, were associated with an overall increased risk of dissolution of first and second marriages. Interestingly, men run a higher risk of dissolution of first marriage than women in terms of spousal-only cohabitation. This is also the case for both spousal-only cohabitations for second marriages. For instance, the findings showed that relative to women, men's spousal-only cohabitation brings forth an earlier timing of first marital dissolution by 10%. Contrary to findings of insignificant and non-detrimental spousal-only cohabitation among Americans by Teachman (2003), this study substantiates a recent study on the stability of men's first marriage in United States by Jones (2010), who showed that spousal-only cohabitation in men is related to a significantly higher risk of marital instability.

Why is *spousal-only cohabitation* associated with a higher risk of dissolution in comparison to *other than spousal-only cohabitation*? Why is this effect stronger for men than for women? Prior research has suggested that cohabitation with others and future spouses maybe weed out the unfit marital partners (Manning & Jones 2007). According to the marital search theory, premature entanglement implies that a better marriage match search is curtailed through over-involvement with one partner to the exclusion of

potential alternatives (e.g., Becker et al. 1977). Alternatively, it may result from the inertia mechanism of spousal-only cohabitation through "sliding" into subsequent marriage (Stanley et al. 2006). Stanley and colleagues (2006:499) described that cohabitation carries its momentum to marriage regardless of fitness, resulting in the fact that "some couples who otherwise would not have married end up married". Consequently, marriages followed by spousal-only cohabitations are probably less deliberative than marriages preceded by other forms of cohabitations.

The reason that the effect of "spousal-only cohabitation" differs by gender is probably attributable to the gendered interpretation of cohabitation itself (Jones 2010; Rhoades et al. 2006). Prior research has suggested that cohabitation is more likely to be interpreted by women as a "step-stone" to marriage, because it represents a stronger level of commitment and dedication, whereas it is more inclined to be seen by men as a "testing ground" for the relationship to "ensure that the first wife is to be 'the one' for marriage" (Jones 2010:252). Possibly, the negative effect of "spousal-only cohabitation" for women is mitigated significantly by the high level of commitment and dedication granted by women. In contrast, the effect for men is highly likely to be exacerbated, considering that it is probably employed as a testing ground.

In addition, why is direct marriage related to the lowest risk of marital dissolution, if a certain amount of cohabitation experience (e.g., cohabitation with spouses and others) can enhance the subsequent marital stability? Perhaps, the explanation rests mainly on the issue of sample selectivity. Liefbroer and Dourlejin (2006), for instance, asserted that those who never cohabited (laggards of the cohabitation innovation) are highly likely to be associated with extremely strong conventional attitudes to marriages, particularly in countries like Sweden or Canada, where the diffusion of cohabitation in the country is uncommonly high. In this sense, this group of people will be unlikely to experience marital dissolution even under various extreme situations (e.g., high marital discord).

This analysis provides evidence for the significance of cohabitation history on the dissolution of second marriages. The results stand clearly in contrast to some studies (e.g., Clark & Crompton 2006; Teachman 2008). For example, Teachman (2008:303) concluded that "intimate, nonmarital relationships have apparently become generally accepted patterns of courtship. Nor is there evidence that these relationships generate

circumstances that lead to a weakening of marriages". However, when extending the analysis to men, a striking negative influence emerges. The results suggest that this association is conditional on gender and marital order.

On the whole, the third and fourth set of hypotheses pertaining to hypotheses of "cohabitation effect" and "spousal-only cohabitation" generally received strong support. The "cohabitation effect" regarding first marriages is not new (e.g., Balakrishnan et al. 1987, Clark & Crompton 2006; Hall & Zhao 1995; Stanley et al. 2006). What is new is the extension of the "cohabitation effect" to the influence of spousal-only cohabitation and to second marriages, especially for men. Despite the mixed results in light of the influence of premarital cohabitation on the risks of second marital dissolution (Clark & Crompton 2006; Parisi 2008), this study expands prior research by showing that the effect of cohabitation history is generally negative and significant, particularly for men. These effects were maintained and become even stronger after controlling for unobserved heterogeneity.

Fourth, several interesting findings with respect to control variables are also noteworthy. Firstly, as anticipated, the majority of control variables that were significant in predicting the stability of the first marriage, failed to retain their significance in the second marriage (Teachman 2008; Saint-Jacques et al. 2011). This may result from differentials in analyses regarding risk factors and sample sizes. Secondly, it is interesting to note that there was an intergenerational transmission of divorce for women, affecting women's stability of second marriage, but not for men's second marriages. Surprisingly, this adverse effect was even stronger on women's second marriages than on their first marriages. This might reflect the gendered mechanisms of intergenerational transmission of divorce. Previous studies have shown that, for example, the adverse effect of parental divorce is stronger for daughter's educational achievement than for sons (Amato & Keith 1991) and women are more sensitive than men to relationship dynamics (Thompson & Walker1991; Heaton & Blake 1999). Further, perhaps women from divorced families are more mentally and practically prepared for single life than their male counterparts, and therefore, they are more inclined to end an unhappy union (Lehrer & Chiswick 1993).

Lastly, are individuals with highly educated parents more likely to dissolve their marriages than their counterparts? This study found little evidence supporting the "bourgeois culture" hypothesis proposed by Hoem and Hoem (1992), who hypothesized a positive association would be due, in part, to the "bourgeois culture" toward divorce (Lyngstad 2006). Overall, this finding was largely consistent with prior research, suggesting no significant relationship between parents' educational attainment and marital dissolution of the offspring, other things being equal (Bumpass et al. 1991; Bracher et al. 1993). With respect to the association between parental educational attainment and union dissolution, the group of lowest low social class stands out in the literature. As shown in current analysis, men who were "unknown" with regard to the educational attainment of their mothers are significantly more likely to dissolve their first marriages than those whose mothers who had less than high school education. This falls in line with the phenomenon of "polarization of family life". For instance, a series of studies by Rajulton and colleagues (2008, 2010) have shown that this special group is significantly more likely to experience early, disparate, and disadvantaged trajectories to family formations. In other words, individuals from lowest-low social class exhibited a higher risk of making direct transitions to fatherhood or motherhood, in conjunction with skipping on the first job and post-secondary education (Rajulton et al. 2008:19). Clearly, this group will be more inclined to be exposed to successive unfavourable event transitions over the life course.

4.6 Conclusion

By using data from the 20th cycle of the Canadian General Social Survey on family transitions conducted by Statistics Canada in 2006, this study explored the risk factors influencing the stability of men's and women's first and second marriages. Focusing on the role of childbearing and cohabitation history, three key questions guided this analysis: 1) which factors have a consistent effect on men's and women's stability of first and second marriages? 2) is the impact of childbirth and cohabitation history similar on the stability of men's and women's first and second marriages? and 3) do the effects of covariates on the stability of first and second marriage differs by gender?

The analysis largely provided strong support for the four sets of hypotheses regarding childbearing and cohabitation history. In addition, for women, age at marriage and parental divorce exerted significant influence on the stability of both marriages. For men, there are a more limited number of predictors that remain significant in the model of second marriages. Adding the frailty term into models to control for unobserved characteristics, it is found that the risk of first and second marital dissolution is significantly associated with unobserved heterogeneity, with the exception of women's second marriages. Furthermore, the results from frailty models also generally confirm the results of survival models without frailty with respect to tests of statistical significance. Overall, consistent with a large number of prior studies, the analysis showed that childbearing, partnership history, age at marriage, and cohort significantly influence the stability of first marriages for both men and women (e.g., Balakrishnan et al. 1987; Bracher et al. 1993; Morgan & Rindfuss 1985; Teachman 2003). In addition, the explanatory variables had similar effects on the stability of the first marriage among men and women, with the exceptions of educational attainment and careers since the start of work (Oppenheimer 1997; White & Rogers 2000).

In contrast, the impact of predicators differs by gender in the risk of second martial dissolution. This fall in line with earlier research on gender differentials in conjugal partnerships (e.g., Bernard 1976; Kalmijn & Poortman 2006; Reed & Bratter 2004; Sweeney 1997; Waller & McLanahan 2005; Waite & Goldscheider1986; Wu 1994).

Interestingly, this analysis also showed a stronger detrimental influence of "spousal-only cohabitation" on stability of marriages for men than for women. In comparison to the effect of childbearing in stability of first marriages, the effect of intermarital birth on stability of second marriages varies by gender, whereas the mutual biological birth is still found to have a stabilizing effect in second marriages for both men and women, but especially for women.

Finally, future research will need to address several limitations in this study. Methodologically, future research could use prospective data, rather than the retrospective approach, to examine union formation or dissolution. This would reduce the problem of missing or wrong reports of conjugal union experiences, especially for cohabitation (Cancian et al. 2011). Prospective data can also allow us to examine the effect of the characteristics of each partner, which is almost impossible to obtain in retrospective studies due to the difficulty in collecting information about each partner. In addition, the dissolution process would be better captured if couples' characteristics are included, since intimate relationships are bilateral and gendered (e.g., Heaton & Blake 1999; Kalmijn & Poortman 2006; Sweeney 2010). Therefore, future research focusing on the dynamics of covariates and couple characteristics would contribute to our knowledge of union transformation (Poortman & Lyngstad 2007; Lichter & Qian 2008; Sweeney 2010). The significance of unobserved heterogeneity suggests further research is necessary (Teachman 2008; Saint-Jacques et al. 2011; Sweeney 2010). Notwithstanding these limitations, this analysis yields valuable insights into marital cohesiveness and dissolution by comparing the stability of men's and women's first and second marriages, with a particular focus on the impact of childbearing and cohabitation history.

Appendix Table 4.1 Measurement Box, General Social Survey, 2006, Canada

Public Data	RDC* Coding	Labels
TTLUNION	TOT_UNION	Total number of unions (marriage and common-law)
TTLMARRG	NO_MARREVER	Number of marriages the respondent has ever had
NMMARWCL	NO_MARR_NOCL	Number of marriages not preceded by common-law union
NMCLFMAR	NO_CL_FOMARR	Number of common-law unions followed by a marriage
EVER_CL		Respondent ever been in a common-law relationship
EVER_LGM	EVER_LEGMARR	Respondent ever legally married
NMSEDVLF	NO_SEPDIV_LIFE	Number of separation/divorce that the respondent has had in his lifetime
Current Marriage		
MARSTATL	LEG_MARSTAT	Current legal marital status of the respondent
MA0_RANK		Rank of current marriage of respondent between all the possible unions he/she had
AGE_MA0C		Age of respondent at start of current marriage
AGLVAPCU	AGE_LIVCUAPPC	Age of respondent when started living apart from current marriage union
AGEATSEP	AGE_SEP_MA0C	Age of respondent at time of separation from current marriage
MA0_Q150		You and your spouse lived common-law before entering into this marriage
AGECLMA0	*AGE_CL_MA0*	Age of respondent at start of common-law before current marriage
MA0_Q220		This is your first marriage
First Marriage		
MA1_RANK		Rank of first marriage of respondent between all the possible unions he/she had
AGE_MA1		Age of respondent at start of first marriage
AGECLMA1	AGE_CL_MA1	Age of respondent at start of common-law before first marriage
AGESEMA1	AGE_SEP_MA1	Age of respondent at time of separation from first marriage
AGEDIMA1	AGE_DIV_MA1	Age of respondent at time of divorce from first marriage
AGEDTMA1	AGE_DTH_MA1C	Age of respondent at death of spouse - first marriage

(to be continued)

Table A Continued

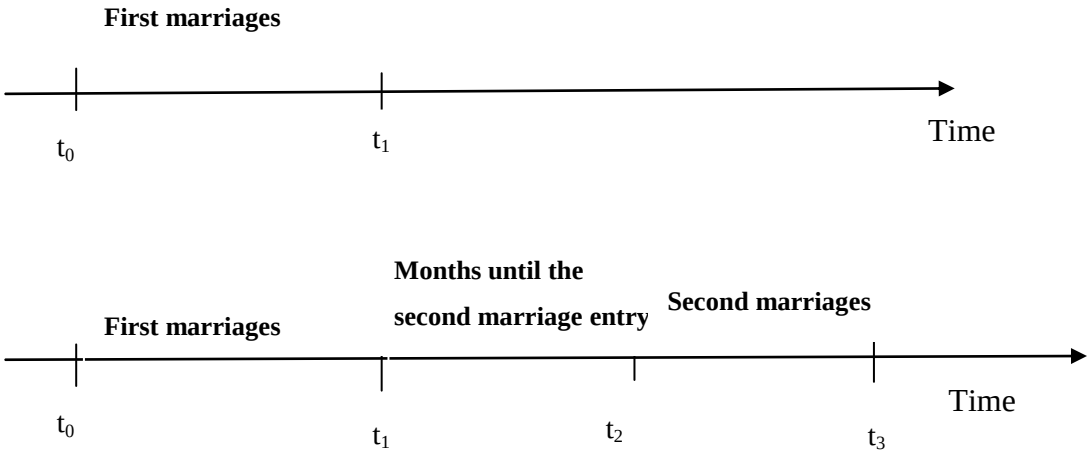
Public Data	RDC* Coding	Labels
Second Marriage		
MA2_RANK		Rank of second marriage of respondent between all the possible unions he/she had
AGE_MA2C		Age of respondent at start of second marriage
AGECLMA2	AGE_CL_MA2	Age of respondent at start of common-law before second marriage
AGESEMA2	AGE_SEP_MA2	Age of respondent at time of separation from second marriage
AGEDIMA2	AGE_DIV_MA2	Age of respondent at time of divorce from second marriage
AGEDTMA2	AGE_DTH_MA2C	Age of respondent at death of spouse - second marriage
Current Cohabitation		
PR_CL		Respondent is currently living with a common-law partner
AGE_CU0C		Age of respondent at start of current common-law
CU0_Q220		You have had a previous common-law relationship that was not followed by marriage
First non-marital cohabitation		
AGE_CU1		Age of respondent at start of first common-law
RAGSEPC1	AGE_SEP_CU1	Age of respondent at time of separation from first common-law
RAGDTHC1	AGE_DTH_CU1C	Age of respondent at death of partner - first common-law
Second non-marital cohabitation		
AGE_CU2		Age of respondent at start of second common-law
RAGSEPC2	AGE_SEP_CU2	Age of respondent at time of separation from second common-law
RAGDTHC2	AGE_DTH_CU2	Age of respondent at death of partner - second common-law
Third non-marital cohabitation		
AGE_CU3		Age of respondent at start of third common-law
RAGSEPC3	AGE_SEP_CU3	Age of respondent at time of separation from third common-law
RAGDTHC3	AGE_DTH_CU3	Age of respondent at death of partner - third common-law
Child birth		
AGEATBR1	AGE_CHDBORN_1	Age of respondent at birth of first child
TYPECHL1	RCI_Q130_01	First child a birth, step- or adopted child
AGEATBR2	AGE_CHDBORN_2	Age of respondent at birth of second child
TYPECHL2	RCI_Q130_02	Second child a birth, step- or adopted child
…	AGE_CHDBORN_8	Age of respondent at birth of child_8.

Notes: *RDC: research data center

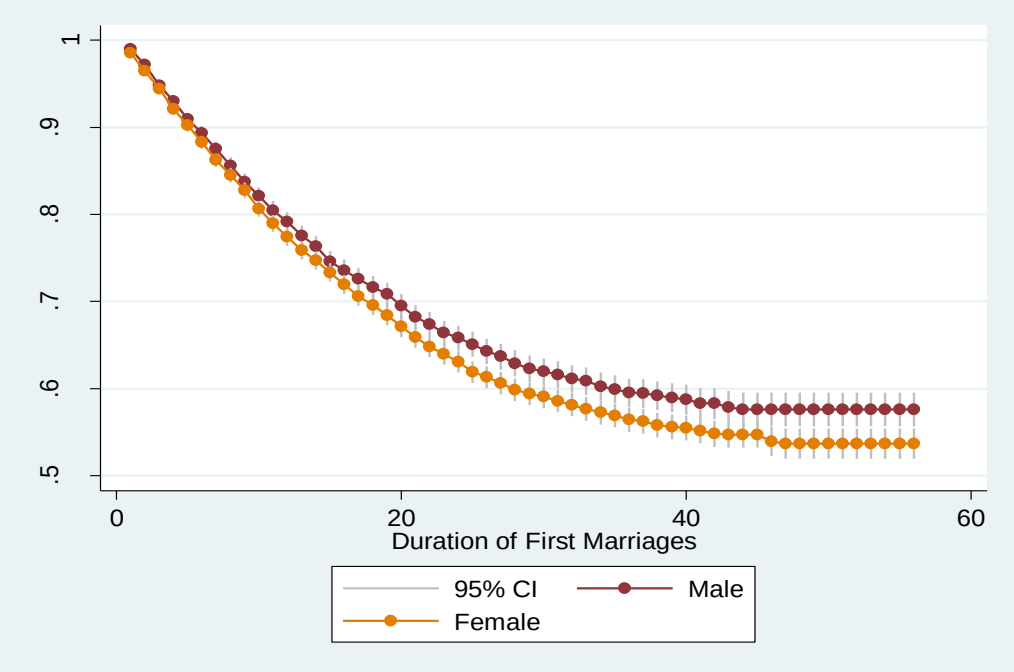
Appendix Figure 4.1 Duration construction for the stability of first and second marriages

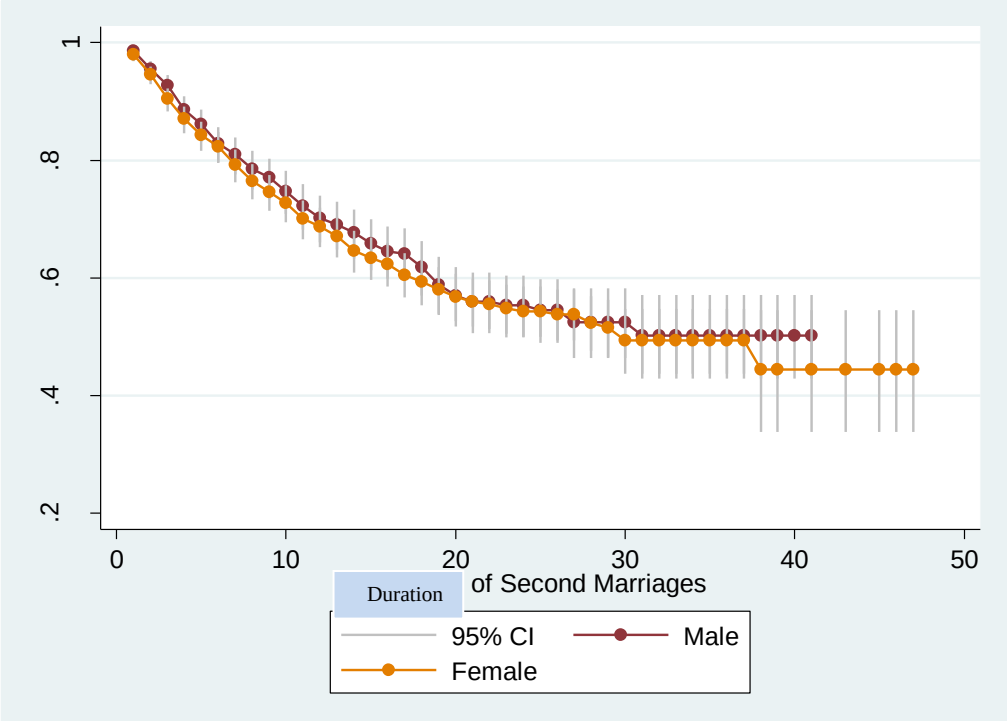
The duration construction for first and second marriage is simply illustrated in a figure as below.

For those marriages dissolved either by separation, divorce, or death of spouse, duration of first or second marriage is calculated by age of ending the marriage (i.e., t_1, t_3) minus age of starting the corresponding marriage (t_0, t_2). For censored cases in this study, the age of marital disruption is equal to the exact age at the date of survey.



Appendix Figure 4.2 Kaplan-Meier survival estimates for the dissolution of first marriages and second marriages by gender, Canada, 2006





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Chapter V

Conclusion

The fast changing landscape of Western family life has been epitomized in popular sitcoms, from the well-known 1950's sitcom *Leave it to Beaver* (1957-1963) featuring the traditional nuclear family model, to the current Emmy award winning sitcom, *Modern Family* (2009-present), characterizing fluid and complex conjugal relationships (e.g., Beaujot 2000; Cherlin 2004, 2009; Statistics Canada 2008; Wu & Schimmele 2011). The flexibility of entry and exit of conjugal partnerships has been the focal point of the second demographic transition (e.g., Lesthaeghe 1995; 2010).

While substantial research has explored the formation and dissolution of partnerships (e.g., Balakrishnan et al.1987; Bramlett & Mosher 2002; Burch & Madan 1986; Milan et al. 2007; Niu 2008; Wu & Balakrishnan et al. 1994, 1995; Wu 2000), relatively little work has examined the transformations of conjugal partnerships from the perspective of sequences and trajectories (e.g., Billari et al. 2006; Rajulton 2001; Mills 2004). The development of longitudinal datasets and advanced analytical methods allow holistic analyses of partnership transformations from a life course perspective (e.g., Aisenbrey & Fasang 2010; Billari & Liefbroer 2010; Elder 1994; Le Bourdais & Renaud 2001; Ravanera et al. 1998; Rajulton et al. 2008; Sassler 2010; Van de Kaa 1997). This dissertation updates the research on conjugal partnerships by examining the trajectories and transitions of partnerships experienced by Canadians during the past few decades.

5.1 Themes and Findings

The objectives of this dissertation were to address three research problems: 1) have partnership trajectories among Canadians become more complex, pluralized, and turbulent; 2) is the effect of socioeconomic prospects associated with trajectories to second union formation among Canadians from the 1960-75 birth cohorts, living in Canada outside of Quebec and; 3) what are the changes in the risk factors influencing the stability of first-and-second marriage among Canadian men and women, especially in terms of the role of childbearing and cohabitation history. The first study involves the application of sequence analysis for a detailed description of trajectories to first marriages and second union formation, while the second and third study examine the explanatory factors associated with trajectories and transitions by using regression and survival analysis. Given the importance of, and the unprecedented changes in conjugal partnerships, this dissertation provides additional insights into one of the most important aspects of human life – the transformations of conjugal partnerships.

The General Social Survey (GSS) on Family Transitions, conducted by Statistics Canada in 2006, is ideal for this dissertation, because it contains detailed retrospective histories of several conjugal unions, as well as other information on family backgrounds. However, similar to other retrospective surveys, this data set has limitations, such as errors in recalling past events and problems of sample representativeness due to the omission of the deceased respondents in retrospective surveys.

Sequence Analysis: Differentiated Trajectories to First Marriage and Second Union Formation

In Chapter 2, I explore the transformation of conjugal partnerships, with respect to union transitions and trajectories to first marriage and the second union among Canadian women born from 1936 through 1985, setting the stage for the following two studies. Overall, the results show that conjugal partnership trajectories in Canada have become more complex, destandardized, and turbulent. First, consistent with prior research on the prevalence of cohabitation (Statistics Canada 2008), the probability of direct marriage

(*never-in-union→1st marriage*) has decreased, while non-direct trajectories to first marriage have increased significantly since the early 1970s. For example, the probability of the direct marriage route declined from about 0.90 for women in the 1936-45 birth cohort to about 0.38 and 0.18 for women in the 1976-85 birth cohort in the rest of Canada and Quebec, respectively. The finding suggests that cohabitation has become somewhat of a "prerequisite" to first marriage across cohorts (e.g., Le Bourdais & Marcil-Gratton 1996; Mills 2004; Wu & Schimmele 2005). This is further supported by the evidence that trajectories with direct transitions to first marriage after the dissolution of the first and second cohabitation *(e.g., never-in-union→1st cohabitation →1st dehabitation → 1st marriage*) are rare among Canadian women. Across cohorts, first marriage is more likely to be preceded by premarital cohabitations, regardless of the order (e.g., *never-in-union→1st cohabitation →1st marriage; never-in-union→1st cohabitation →1st dehabitation → →2nd cohabitation→1st marriage).* For example, for women living in the rest of Canada, the probability of taking *the path of first marriage preceded by first cohabitation* increases from 5% for women in 1946-55 cohort to about 25% for women born 30 years later (1966-75 birth cohort), and the likelihood of following the *pathway of first marriage preceded by second cohabitation* also increases from about 2% for women in 1956-66 to nearly 6% for women in 1976-85 birth cohort. These results are in line with prior studies, suggesting that cohabitation has become an integral part of family life, with associated increased institutionalization (e.g., Dumas & Bélanger 1997; Heuveline & Timberlake 2004; Mills 2004; Niu 2008).

On the other hand, the increased likelihood of the pathway to first marriage preceded by *a second premarital cohabitation* reinforces the notion of heterogeneity in cohabitation (e.g., Ambert 2005; Bumpass & Lu 2000; Guzzo 2006; Stanley et al. 2006). The detailed analyses of trajectories indicate that previous cross-sectional studies of premarital cohabitation have failed to capture the increasing heterogeneity within cohabitations, by neglecting the importance of cohabiting order. Therefore, consistent with research on the process of entry into cohabitation, the results suggest that this entry is not necessarily framed within the marital context (e.g, Ambert 2005; Manning & Smock 2005). This changing social meaning of cohabitation and its social acceptance as a family formation type are further reflected by the increase of serial cohabitations.

Second, somewhat surprisingly, the results show that the direct marriage path *(i.e., never-in-union→1st marriage)* has remained the prevailing route to first marriages among Canadian women born from 1936-85, especially for women living in Canada outside of Quebec. At the same time, it is important to note that censoring has a strong effect on the younger cohorts. That is, the trends may change when the younger generations are given more time to experience their union transformations. The results indicate that for the youngest cohort of women living in the rest of Canada (born in 1976-85), the probability is about 38% for taking the direct marital route, 20% for first marriage preceded by *the first cohabitation*, and about 6% for the trajectory to first marriage preceded by *the second cohabitation*. Although the patterns and trends in Quebec are not so clear-cut relative to the rest of Canada, the general trend stands mainly due to the higher likelihood of substituting marriages by cohabitations among Quebec women across cohorts (Le Bourdais et al. 2004). Thus, the prevalence of direct marital trajectories among women living in Canada echoes the stability and change in transformations of conjugal partnerships (e.g. Coontz 2004; Smock 2004; Mills 2004). Historical family scholars, for example, have argued that marriage is going to stay, although the monopoly of marriage is not likely to be regained in the near future (e.g., Coontz 2004).

Third, the results of trajectories to second union are in line with other research, showing the increase in the *post-modern trajectory* (i.e., pathways involving only two non-marital cohabiting unions, *never-in-union→1st cohabitation→1st dehabitation→2nd cohabitation*) over cohorts, particularly in Quebec, as well as the decrease in the *traditional trajectory* (i.e., path involving two-marital unions, *never-in-union→1st marriage→1st demarriage→2nd marriage).* The *modern trajectories* (i.e., pathways involving one cohabitating and one marital union) remain fairly stable among women living in Canada outside of Quebec, reflecting that marriage still acts as an attractive form of family formation in Canada outside of Quebec, where the majority will "give marriage a try" as happens the United States (Goldstein & Kenney 2001; Le Bourdais et al. 2004). In addition, the sharp increase in *the post-modern trajectory* is in keeping with the growing phenomenon of serial cohabitation (serial-cohabitators) in Canada and the United States (e.g., Cancian et al. 2011; Elzinga & Liefbroer 2007; Lichter et al. 2010; Schoen et al. 2007; Statistics Canada 2008). The probabilities and durations of transitions

within trajectories are generally consistent with Billari and Liefbroer's (2010) reversibility hypothesis, showing that life events with lower reversibility (e.g., marriage) are more likely to be postponed across cohorts.

Fourth, the results from the regional analyses underscore the differences in transformations of conjugal partnerships between Quebec and Canada outside of Quebec. As suggested by prior research, Quebec exhibits a faster speed of conjugal transformations than the rest of Canada, while Quebec resembles family changes in Sweden (e.g., Le Bourdais et al. 2004; Heuveline & Timberlake 2004). The striking regional difference in partnership trajectories has substantive meaning, reflecting the significance of dynamic relationships between social structure and agency. As indicated by social theorists, social change is embedded in the fabric of agency and structure (Giddens 1984; Mills 2004; Sewell 1992). The diffusion of cohabitation brings about the institutionalization of cohabitation, resulting in a new social system or structure for conjugality, and therefore setting a distinct conjugal path for the new generation (e.g., Kiernan 2002; Le Bourdais et al. 2004; Mills 2004; Schoen et al. 2007). Based on this "theory of structuration" (Giddens 1984; Mills 2004), the conspicuous regional differences in conjugal life can be related to both micro-level factors (e.g., attitudes to conjugality) and macro-level structural reasons (e.g., the level of cohabitation institutionalization). This finding is in keeping with a large number of studies, showing that transformations of intimate relationships vary significantly by the level of cohabitation diffusion and national policies regarding families (e.g., Elzinga & Liefbroer 2007; Liefbroer & Dourlejin 2006; Laptane 2006; Mills 2004; Heuveline & Timberlake 2004).

Regression Analysis: Divergence of Socioeconomic Prospects in Trajectories to the Second Union

After the description of the transformations of common partnership trajectories, Chapter 3 investigates the effect of socioeconomic prospects on the types of trajectories to second union formation by drawing upon the theoretical framework of "career-entry theory" of marriage (e.g., Cherlin 2004; Oppenheimer 1997). The analyses were conducted on the basis of a sample of Canadians born in 1960-75 and living in Canada

outside of Quebec. I excluded Quebec because the theoretical perspective on the changing meaning of marriages is not applicable to Quebec (e.g., Cherlin 2004; Laplante 2006; Le Bourdais et al. 2004). This study contains three-fold objectives, including 1) a description and typology of trajectories to second union formation, 2) the effects of risk factors and, 3) investigation of gender differentials in the risk factors.

Firstly, the results show that approximately 50% of individuals in the 1960-75 birth cohort have the *one-marriage pathway*, 30% follow the *two-marriage trajectory* and about 20% are in the *serial-cohabitation route*. The high percentage (80%) of pathways to second union involving one or two marriages suggests the attractiveness of marriage as a family formation among this birth cohort of Canadians living outside of Quebec. In particular, the 30 percent who had the *two-marriage trajectory* indicates that remarriage is not outdated nor completely substituted by post-marital cohabitation in this group. Furthermore, the results showing that 20% follow the *serial-cohabitation trajectory* corresponds to findings from other research on serial cohabitations in Canada and the United States (e.g., Bumpass & Lu 2000; Cohen & Manning 2010; Lichter & Qian 2008: 874; Schoen et al. 2007; Statistics Canada 2008). The descriptive analysis also shows that partnership trajectories differ by socioeconomic prospects — individuals with low educational attainment and unstable work status since the start of the work are more likely to go through the *serial-cohabitation trajectory* than their counterparts.

Next, the findings of this investigation show that socioeconomic prospects factor influences the types of trajectories to second union formation significantly. More specifically, the effect of socioeconomic prospects is more pronounced in the odds of a *serial-cohabitation trajectory* versus *one-marriage trajectory*, when compared to the *two-marriage pathway* versus *one-marriage route.* For instance, low socioeconomic prospects are significantly associated with a higher risk of taking the *serial-cohabitation route* versus *one-marriage pathway*, instead of the *two-marriage route* versus *one-marriage trajectory*. In contrast, family structure and religiosity play more important roles in influencing the odds of taking the *two-marriage* versus *one-marriage pathway*. The more prominent the impacts of socioeconomic prospects pertaining to “no” marriage and “one” marriage fall in line with prior research, which underlines how marriages are hindered by economic hardships and financial instability, which may in turn contribute to “recycling”

of cohabitations among cohabitators (e.g., Lichter & Qian 2008; Lichter et al. 2010; Smock et al. 2005). In addition to the "affordability" model of marriage (Oppenheimer 1994:315), this finding may further echo prior research on the increasingly symbolic and social meaning of marriage, as a manifestation of public commitment and personal success (e.g., Axinn & Thornton1993; Cherlin 2004; Luscombe 2010).

Lastly, gender symmetry in the effect of socioeconomic prospects on conjugal trajectories is found in this study, including convergence in socioeconomic basis of partnerships (Beaujot & Liu 2005; Marhsall 2006; Raymo & Iwasawa 2005; Sweeney 2002). Contrary to Becker's (1981) theory of gender specialization and trading model of marriage, women with high socioeconomic prospects have become significantly more likely to take a route involving marriages, rather than only cohabitations. This gender symmetry is consistent with shifting family models and the changed meaning of marriage (e.g., Raymo & Iwasawa 2005; Sweeney 2002). The results also support Oppenheimer's "career-entry" theory of marriage, which contends that modern marriage requires two persons with mutual trust and resources to sustain this privileged type of conjugality (e.g., Luscombe 2010; Sweeney 2002; Wilcox 2010; Wilcox et al. 2011). More importantly, this gender symmetry further implies that intimate relationships are becoming a new source of social inequality, given the increase of assortative mating (e.g., Goldstein & Kenney 2001; Hou & Myles 2008).

Survival Analysis: Effects Marital Stability Differs by Marital Order and Gender

Expanding my inquiry to how life-course factors affect transformations of partnerships, Chapter 4 examined the risk factors affecting the stability of men's and women's first and second marriages, with a particular focus on the role of childbearing and cohabitation history. The central research questions involved the comparison of determinants of marital stability by marital order and gender. Specifically, four sets of hypotheses regarding childbearing and cohabitation history were tested, including 1) the marital-specific capital hypothesis, 2) the premarital or inter-marital birth hypothesis, 3) the cohabitation effect hypothesis, and 4) the spousal-only cohabitation effect hypothesis. In addition to typical survival analysis, survival analysis with frailty was further undertaken to account for the unobserved heterogeneity associated with time-related

dependent variables (Aalen 1994; McGilchrist & Aisbett 1991). The refined survival analysis with frailty provides evidence, showing downward parameter estimates and overall existence of unobserved heterogeneity when unmeasured or unknown characteristics are neglected in the models of marital dissolution. The only exception is the model of women's second marriages, where the insignificant unobserved heterogeneity (Gamma) indicates that variance is well captured by the variables included in the model. The frailty models also confim that the less refined models produce roughly similar results on significance tests of confidents, with the exception of mutual marital biological birth in men's second marriages. That is, after controlling for frailty, biological marital birth in men's second marriage functions as a significant "marital specific capital" ($p<.05$), stabilizing men's second marriages, whereas this effect is insignificant in the models without frailty.

In general, findings from this investigation support the four sets of hypotheses pertaining to childbearing and cohabitation history. Interestingly, the effects of predicators on the risk of second marital dissolution differ by gender, although a similar impact is observed in men's and women's first marital instability. For instance, for men's and women's first marriages, having a mutual biological child generates a significantly stabilizing effect, whereas a premarital birth exerts a destabilizing effect. The substantive effect of mutual biological childbearing is consistent with the findings from Morgan and Rindfuss (1985:1069), who contended that "marital conceptions provide the greatest protection against marital disruption". In contrast, the strong and significant effect of childbearing ($p<0.005$) persists in the stability of women's first and second marriages, but it is not the case for men. For example, intermarital birth is not significantly related to a higher risk for men's second marriages. Referring to the notion of intimate relationship as "plastic sexuality" and "pure relationships" (e.g., Giddens 1992), the results of this study suggest that only men appear to partially achieve "plastic sexuality" in a sense that a birth (i.e., intermarital) is less significantly related to the stability of men's second marriages. However, results from this study provide little evidence for the notion that Canadian marriages have become "pure relationships", where births will no longer "anchor" a marriage. Alternatively, the results support the concept of "children as specific marital capital" (Becker 1977).

In terms the effect of *cohabitation history*, the findings from this study not only provide evidence supporting the "cohabitation effect" (i.e., premarital cohabitation increases the odds of subsequent marital instability), but also show that *spousal-only cohabitation* is associated with an elevated risk of first marital dissolution, when compared to *other than spousal-only cohabitations.* Also, this destabilizing influence of *cohabitation history* persists in men's second marriages, but not women's. The stronger effect of *spousal-only cohabitation* stands in contrast to findings from prior research (e.g., Teachman 2003), which had concluded that women who restricted sex and cohabiting to future marital spouses indeed had risks of first marital disruption, which were similar to those who married directly. On the other hand, the negative *spousal-only cohabitation* effect falls in line with Jones' (2010) study on the stability of American men's first marriages. In addition, this detrimental effect is stronger for men than for women. Likewise, *the first-and-second spousal-only cohabitation* prior to second marriages is also significantly associated with an increased risk of disruption of second marriage for both sexes.

Perhaps, the detrimental effect of *spousal-only cohabitation* is attributable to the shortened marital search owning to over-involvement with one partner to the exclusion of potential alternatives (e.g., Becker et al. 1977) or the *inertia cohabitation effect* resulting from "sliding" into unfit marriages rather than "deciding" marriages (e.g., Stanley et al. 2006). Furthermore, the gendered difference in the effect of *cohabitation history* by marital order probably reflects the gendered interpretation of cohabitation. For instance, research has pointed out that cohabitation is more likely to be interpreted as a "stepping-stone" to marriage by women, representing a stronger level of commitment and dedication, whereas it is more inclined to be seen as a "testing ground" by men to ensure the "right one" for marriage (e.g., Huang et al. 2011; Jones 2010; Rhoades et al. 2005). Furthermore, the inconsistency between the findings of *spousal-only cohabitation* effect from this study and prior research may also be due to the diffusion process of cohabitation in specific national contexts and birth cohorts (e.g., Heuveline & Timberlake 2004; Kiernan 2002; Laplante 2006; De Graaf & Kalmijn 2006).

Lastly, two findings regarding the influence of control variables are noteworthy. Consistent with other studies, the majority of control variables that were significant in affecting the first marital dissolution failed to retain their significance in second marriages (e.g., Teachman 2008). Further analyses controlling for unobserved heterogeneity suggest that unmeasured characteristics significantly contribute to marital instability, which indicates that additional research is needed to account for the variability in marital stability. Besides, the relatively smaller sample size in analyzing stability of second marriages may contribute to the differences in the tests of significance. Moreover, an intergenerational transmission of divorce persists in women's first and second marriages, but not for men's second marriages. This finding is in keeping with previous research, arguing that the family life of women is more affected by family-of-origin factors than is the case for men (e.g., Amato & Cheadle 2005; Axinn & Thornton 1993; Rajulton et al. 2008). As Teachman (2008:303) proposed, "Apparently, gender sets the context within which life-course patterns is evaluated and subsequently exerts influence on second marriages". By extending research on marital disruption to second marriages, this study not only shows how the effect of risk factors varies by marital order, but reveals how the influence of predictors affecting marital instability differ by gender over the marital life-course.

5.2 Some Remarks on Study Designs

Several problems on study design are worth mentioning. First, guided by the principle of sequence analysis, I used LIFEHIST software to trace partnership trajectories and to generate a partnership typology (Rajulton 1992, 2001; Mills 2004). This analytic method identifies trajectories by emphasizing the order and quantum of events within sequences, but neglecting the durations of transitions in sequences. For instance, first marriages preceded by seven-month or seven-year cohabitations indeed signal two distinct pathways. Further research could be undertaken to include duration aspects of timing of events in differentiating sequences (e.g., Aisenbrey & Fasang 2010).

Second, the key variable in Chapter 3, trajectories to second union formation, is limited by its measurement. This dependent variable was classified into three categories, including *serial-cohabitation, one-marriage, and two-marriage trajectory*. It is useful to note that the *one-marriage trajectory* contains the several pathways, which encompass a marital union and a cohabiting union, regardless of order (*e.g., never-in-union →1st marriage →1st demarriage →2nd cohabitation*). As prior research has suggested, the *one-marriage trajectory* starting with first union as cohabitation or direct marriage are qualitatively different pathways (e.g., Dumas & Bélanger 1997; Teachman 2003; Tach & Halpern-Meekin 2009). Due to a relatively small sample size for this multi-nominal logistic regression analysis, and my research focus on the symbolic meanings of marriages, the dependent variable in Chapter 3 emphasizes trajectories by marital numbers. However, given the variations in trajectories, more refined measures of the typology would better elucidate the partnership complexities.

Third, Chapter 4 includes a sample of Canadians born from 1935 to 1980. Although the analyses highlight the changes that have occurred since the 1950s in Canada, the wide range of birth cohorts challenges the robustness of parameter estimates, when applying the findings to a specific birth cohort, especially for the younger generations. For instance, the changed social meaning of cohabitation and the decoupling of partnerships and reproduction could alter the impacts of childbearing and cohabitation history on marital stability (e.g., Cancian et al. 2011; Le Bourdais et al. 2004; Heuveline & Timberlake 2004; Manning 1996 on second marital d). Moreover, the combined analyses, without separating individuals from Quebec and the rest of Canada, may also raise questions about the robustness of parameter estimates, given the heterogeneity of samples by region, especially in second marriages. Accordingly, future research on conjugal life in Canada may consider analyses conducted separately between Quebec and the rest of Canada, rather than undertaking descriptions and explanations for the general Canadian national context (e.g., Kerr et al. 2006; Le Bourdais & Marcil-Gratton 1996).

In sum, the three inter-connected studies examine transformations of conjugal partnerships from three distinct perspectives. Notwithstanding the above limitations, the study designs are believed to be well suited to my research questions and methodological requirements. Given the increasing applications of longitudinal study approaches in social sciences, and the importance of describing and explaining complex social phenomena, this dissertation provides an example of applying sequence analysis in the conjugal life domain. This methodological approach is powerful and could be applied to examine the influences of partnership trajectories on outcomes in other life domains, such as health, wealth, and happiness (e.g., Abbott 1998; Aisenbrey & Fasang 2010).

5.3 Future Research

This dissertation contributes to the literature on the transformations of conjugal partnerships in Canada. However, it also raises a number of questions to be investigated in future work, given the continuing changes in family-life behaviour. Among the many potential studies, this section highlights three future research questions relating to partnerships in a life course perspective. First, this dissertation shows the efficacy of sequence analytical methods guided by the life-course approach. Expanding this line of theoretical and methodological inquiry, our understanding of the role of partnerships will be enhanced by further research on the influence of conjugal trajectories on health trajectories and reproductive histories.

The sequence analyses used in this dissertation aims to contrast the patterns of conjugal trajectories between Quebec and the rest of Canada. Other salient factors – social status, ethnicity, nativity, and generational status – which significantly shape conjugal trajectories should also be incorporated into future research on conjugal trajectories (e.g., Phillips & Sweeney 2005; Sassler 2010). Since research has indicated that partnering is learned behaviour (e.g., Brown et al. 2008), it would be important to investigate how conjugal trajectories of immigrants and minorities differ from native-born populations. How, and to what extent, do foreign-born Canadians emulate the relationship processes of native-born White Canadians? What are the consequences for foreign-born

youth who have pluralized and turbulent partnership trajectories similar to their White counterparts?

Finally, considering the ongoing process of pluralized, turbulent, and gendered conjugal partnerships, as well as the general valuation for a lasting intimate relationship in Canada, more research is needed with respect to the factors promoting the solidarity of conjugality. In particular, more qualitative research could help illuminate the unobserved characteristics or mechanisms in union transitions and trajectories, since research relying on statistical techniques for unobserved heterogeneity provides little insight into the sources of unobserved selectivity. As Sweeney has (2010: 645) has suggested, "Qualitative studies can greatly enhance our understanding of complex and dynamic within-family processes, provide much needed insight into mechanisms underlying observed associations between family structure and outcomes, and shed light on the considerable diversity in remarried-family and stepfamily experiences." Particularly, this is the case for families formed through cohabitation only, where relationships are less institutionalized, socially and legally (e.g., Brown & Manning 2009; Mahoney 2006). For example, a study on couples' *interactive processes* in remarriage by Saint-Jacques and colleagues (2011) provides insights into promoting relationship stability and quality. Family scholars can help individuals and society to know how to face the challenges in various aspects of family-life, resulted from the unprecedented and ongoing transformations of conjugal partnerships across the life course.

This dissertation not only expands our understanding on the transformation of conjugal partnerships in terms of its differentiated processes, social divergences, as well as gender patterns regarding marital stability across the life course in Canada over the past several decades, but also raises other important questions to be pursued in the arena of family demography.

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Curriculum Vitae

Name: Ching Jiangqin Du

Post-secondary Education and Degrees:

The University of Western Ontario (Western)
The Department of Sociology
London, Ontario, Canada
2006-2012 Ph.D.

Beijing (Peking) University
The Institute of Population Research
Beijing, China
2002-2005 M.A.

East China Jiaotong University
The School of Economics and Management
Nanchang, Jiangxi, China
1998-2002 B.A.

Related Work Experience:

Lecturer, Western, The Department of Sociology, 2011-*Present*
Lecturer, Brescia & King's University College at Western, 2012-*Present*
Research Assistant, Western, 2007-*Present*
Teaching Assistant, Western, 2006-2010
Associated Research Fellow, Center for European Studies, Peking University, China, 2005-2006

Scholarships and Awards:

Internacional doctroal scholarship(IDS), Western, 2006-2011
Special University Scholarship(SUS), Western, 2006-2010
"Outstanding Graduate" Honor, East China Jiaotong University, 2002
"First-Class Scholarship", East China Jiaotong University, 2001

Publications:

Beaujot, Roderic, Zenaida Ravanera, and **Ching Jiangqin Du.** 2012**. "**Family Policies in Quebec and The Rest of Canada: Implications for Fertility, Child Care, Women's Paid Work and Child Development Indicators." Manuscript submitted to a journal.

Richards, Judy-Lynn, Susan Sverdrup-Phillips, and **Ching Jiangqin Du**, Heather Maddocks, Jennifer Brooks, Heather Spiegel. 2008. "Social Inclusion of the Oldest-Old: Toward Supportive Housing Policies*". HRSDC Project of Strategic Cluster on Family and Population Change. Human Resources Development Canada.*

Chen, Wei and **Ching Jiangqin Du.** 2004. "Sex Ratio of the Oldest Old in China: Trends and Patterns." *Population Research Journal (Chinese*). 28(1): 43-47.

Working Papers:

Beaujot, Roderic, Zenaida Ravanera, and **Ching Jiangqin Du.** 2010. "Child Care: Preferences and Opportunity Costs," *PSC Discussion Papers Series*: Vol. 24: Iss. 3. Available at: http://ir.lib.uwo.ca/pscpapers/vol24/iss3/1

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Du, Ching Jiangqin. 2008. "Family Context and Affective Fathering: Does Father Type Matter?" Research project of Changing Fatherhood: Supporting Involvement.

Conference Presentations:

"Stability of Men's And Women's First and Second Marriage: The Impact of Child Birth and Cohabitation History". Paper presented at the Annual Meeting of Canadian Population Society, New Brunswick, June 1st- 3nd, 2011.

"Social-demographic Factors Related to Self-Medication in Vietnam." Annual Meeting of Canadian Population Society, Ottawa, Ontario, May 23th- 25th, 2009.

"Family Context and Affective Fathering: Does Father Type Matter?" Poster presented at the 4th Symposium of the Population, Work and Family Policy Research Collaboration (PWFC), Ottawa, Ontario, December 12th-14th, 2008.

"Social Inclusion of the Oldest-Old: Toward Housing Policies that Enable Seniors to Continue to Live At Home". Poster presented at Canadian Association Gerontology. London, Ontario, October 23th -26th, 2008.

"Should I Stay or Should I leave for Nursing Home: The Role of Ethnicity". Annual Meeting of Canadian Sociological Association. Vancouver, British Columbia, June 2th to 8th. 2008.

Beaujot, Roderic, Zenaida Ravanera, and C**hing Jiangqin Du**. 2010. "Child care: Preferences and Opportunity Costs." Statistics Canada Socio-Economic Conference, 26-27th April 2010.

Sverdrup-Philips, Susan, Judy-Lynn Richards, **Ching Jiangqin Du**, Heather Spiegel, and Heather Maddocks. 2008. "Preventing Social Exclusion of the Oldest-Old: The Importance of Policies that Support Seniors Social Activities of Daily Living and their Social Inclusion." Presented at the 4th Symposium of the Population, Work and Family Policy Research Collaboration (PWFC), Ottawa, Ontario, December 12th-14th, 2008.